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East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS

No. 2037



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S&T KNOW-HOW INTERNATIONAL, CEMA MARKETS IN 1980S ANALYZED

Warsaw HANDEL ZAGRANICZNY in Polish No 2, 1980 pp 21-25

[Article by Jan Monkiewicz: "International Market for Scientific and Technical Ideas in the 1980s"]

[Excerpts] I begin this article by presenting the characteristics of the international market for scientific and technical ideas, then I attempt to sketch the structure of this market in the recent period of time and finally, against this background, I try to define the direction of this market's development in the eighties.

Composition of Participants in the World Market for Scientific and Technical Ideas

Until the late fifties and early sixties, the technology market was worldwide in name only. In fact, the market was clearly divided by the geopolitical border into the East and the West. We were dealing with two regional markets having clearly different principles and operational mechanisms and also different qualitative parameters for the merchandise traded there. These markets met each other infrequently and then only to a limited extent. The late sixties and early seventies introduced some basic changes to the picture presented above. The market principles and the qualitative parameters applicable to the objects of trade became much more alike. Contacts between the two markets intensified markedly. Using the licensing transactions as the basis, it turns out that in the 1960-1965 period the socialist countries purchased about 300 licences, in the 1966-1970 period already about 700 and in the 1971-1975 period about 1,200¹. Using as the basis the machinery and equipment trade, the Western countries covered about 20 percent of the total demand of CEMA countries in 1963; this share increased to 25 percent in 1970 and to 35 percent in 1976.

These ties were not onesided, although the technological market of the East depended more on these ties than the West². If we refer again to the licensing transaction statistics, out of the total number of about 700 licenses sold until 1976 by the socialist countries to the West, over one-half was exported during the years 1971-1976. In the recent years, about 100 licenses annually have been exported from the socialist countries to the capitalist countries' markets.

It is worth noting that both markets have clearly defined their own centers. They are the United States in the West and the Soviet Union in the East.

The composition of participants in the world technology market results in a high degree of concentration of purchases and sales. In the machinery and equipment field about 60 percent of transactions take place in highly developed countries.

Table 1. Geographic Distribution of the Flow of Merchandise in the World Market of the Electrical Machinery Industry

In percentages

Import	Developed capitalist	CEMA countries	Developing countries
Share of the world market			
Export	59.1	10.6	30.3
Developed capitalist countries	96.4	35.0	91.7
CEMA countries	1.6	64.9	5.1
Developing countries	2.0	0.1	3.2

Source: Bulletin of Statistics Trade in Engineering Products 1974, United Nations 1978

It is estimated that close to 80 percent of the production of machinery and equipment of the capitalist world are concentrated in six countries: United States, FRG, Japan, France, Italy and Great Britain. The concentration of foreign trade falls into similar pattern³.

In the field of license exchange, the degree of concentration is very similar. It is estimated that at this time over 80 percent of transactions (by value) take place in the highly developed countries. The share of developing countries is no more than 5 to 7 percent and that of socialist countries 10 to 15 percent. An especially high concentration appears in the supply of licenses. Over one half of the supply comes from the United States and the balance from a relatively limited number of countries.

Table 2. License Transactions of Selected Capitalist Countries (1960-1976)

In millions of \$

Country	1960		1971		1976	
	Revenue	Expend- iture	Revenue	Expend- iture	Revenue	Expend- iture
France	48	91	80	269	180	550
Japan	2	95	71	544	196 ^b	548 ^b
FRG	40	128	182	494	262 ^b	670 ^b
Switzerland	60	10	200 ^a	30 ^a		
United States	538	75	2491	234	4411	483
Italy	21	48	100	384	238	610
Great Britain	80	60	334	313	443	435

a. 1970

b. 1944

c. Including royalties

Source: Licensing statistics of the above-mentioned countries.

The demand for licenses is relatively much less concentrated, although a major part is grouped in a relatively small number of countries.

Regarding the ties of the CEMA countries with the world market in the licensing field, they are also highly concentrated, especially on the demand side. At this time, the USSR is the largest purchaser of licenses, as it buys on the average 100 licenses annually. In the second place are Czechoslovakia and Poland, the purchases of each being on the order of 50 a year. Then, in order, come Romania, Hungary and Bulgaria.

It must be remembered that the CEMA countries' statistics in the field of licensing are exceptionally incomplete and in many instances not quite comparable. For instance, the term license has much broader meaning in the GDR than in Poland, because in the GDR it includes the documentation transactions which are included under technical services in the Polish statistics.

Table 3. Licensing Transactions of CEMA Countries With the West

In millions of \$

Country	1966		1970		1977	
	Revenue	Expend- iture	Revenue	Expend- iture	Revenue	Expend- iture
Bulgaria		32.5		7.0		
Czechoslovakia	0.8	4.0	9.0	47.0	12.0 ^a	48.0 ^a
GDR		10.0	2.0	15.0 ^c	7.5	6.0
Poland	0.3	6.3	0.2	50.0	2.6	80.0
Hungary	0.17 ^b	0.94 ^b	0.44	1.5	3.0 ^a	3.6 ^a
Romania		127.0				
USSR		300.0		300.0		

a. 1973

b. 1968

c. 1971

Source: Licensing statistics of the above-mentioned countries.

Paradoxically, we have even less information on the internal license market in the CEMA countries. It is still a small market, but its trading is growing. Out of 379 active licenses in Poland in 1977, 13 came from the GDR and 8 from the USSR (total 5.5 percent). According to the GDR data, the import of licenses to that country from other CEMA countries increased almost six-fold in terms of quantity during the 1971-1977 period, and amounted in 1977 to 53 licenses; that import increased eight times in terms of value. In the same period, the export to the CEMA countries increased almost three-fold in terms of quantity (118 licenses in 1977) and almost five-fold in terms of value.

In 1976, Czechoslovakia sold 2 licenses to socialist countries and bought 24 in the same market. Of the licenses sold, most were purchased by the GDR--12 licenses, and Hungary--5 licenses. Of the licenses bought, 15 came from the GDR, 5 from the USSR and 3 from Poland⁴.

According to the data cited by S. I. Simanowski, the CEMA countries concluded among themselves the total of over 400 licensing agreements in the 1971-1975 period⁵. During the same period, these countries exchanged among themselves 14,000 sets of technical documentation on a nonreimbursable basis.

Characterizing the composition of the world technological market, it should be noted that international corporations play a leading role⁶. The international corporation internal transactions accounted in 1966 in the United States for 65.3 percent of revenue from licensing and for 45.7 percent of licensing expenditures, in 1970 the corresponding figures were 61.1 percent and 42.7 percent and in 1976 72 percent and 56 percent.

In Great Britain, the international corporation internal transactions accounted in 1966 for 34.5 percent of licensing revenues and 59.1 percent of licensing expenditures, in 1970 the corresponding figures were 30.8 percent and 61.4 percent and in 1975 they were 31.8 and 65.1 percent.

In the licensing transactions in the FRG, the share of companies partly owned by foreign capital in 1967 was 2.6 percent of licensing revenues and 75.5 percent of licensing expenditures. In 1975, the corresponding shares amounted to 5.4 and 77.1 percent⁷.

Development of the International Market for Scientific and Technical Ideas

One of the development trends of the world technological market most often pointed out is its rapid growth. It is emphasized that the world trade in technical ideas grows much faster than international trade in general. Let us try to look a little more closely at these problems. For this purpose we will compare four time series of leading capitalist countries: the industrial production, the export of machinery and transportation equipment and the export of licenses for the period 1960-1976 (Table 4).

The data shown provide us with a lot of interesting information. If we assume that export of machinery and equipment (with certain simplifications) and export of licenses constitute two main components of the world technology market, we can make a statement that, generally, during the 1960-1976 period, payments for these items grew faster than industrial production and exports of the countries under consideration. Also, it can be noticed that the licensing transactions generally grew more slowly (disregarding the special case of Japan which started from a low level of license exporting) than export of machinery and equipment.

The data presented above also show that the rate of growth of export of machinery and equipment and of licenses in relation to export in general was much higher in the 1960-1971 period than in the 1971-1976 period.

Export of machinery and equipment continued to grow in 1971-1976 a little faster than export in general but the difference definitely decreased in all six countries (except Great Britain, where it grew a little).

The license export situation developed quite differently. The years 1971-1976 brought a definite fall of the rate of growth of this export in relation to the total export of goods and, consequently, the rate of increase of license export was much lower than the rate of increase of export of goods.

Obviously, there is the question to what extent this is a business cycle phenomenon due to economic turmoil in the capitalist world at that time and to what extent this is a structural phenomenon symptomatic of certain processes taking place in the technology market.

Table 4. Composition of Trade on the Capitalist Technology Market 1970-1976
In percentages

Country	Industrial production ^a	Export	Export of Machinery and Equip- ment	Export of licenses	Growth during the period 1971-1976				Growth during the period 1960-1976			
					1 st	2	3	4	1 st	2	3	4
United States	164.2	213.1	278	463	113.4	260.7	256	178	196.1	555.6	711.7	824.1
France	182.0	300.1	409	167	107.7	271.0	296	207	196.0	813.3	1202.5	345.7
FRG	172.4	351.1	372	455	110.8	260.4	263	154	191.0	914.3	978.4	700.7
Italy	200.0	414.4	532	476	122.0	244.6	251	238	244.0	1013.6	1335.3	1132.9
Great Britain	130.0	219.0	221	418	102.3	205.3	231	133	133.0	449.6	510.5	555.9
Japan	367.7	529.3	1127	3550	121.3	230.0	350	276	446.0	1656.4	3944.5	979.6

a) constant prices

Source: Author's calculations based on the GUS 1974 Statistical Yearbook and on the statistics of the above-mentioned countries.

The first thesis is contradicted by the continuing excess of the rate of growth of export of machinery and equipment over the rate of growth of export in general and also by the fact that the latter was just as affected by the limitations imposed by business downturn in the markets of the West.

Thus, if we assume that the second thesis is true, the obvious question arises as to what is the essence of changes in the world technology market that act to limit the technological transactions.

It appears that an essential ingredient of the said changes is an intensification of technological protectionism. And what is even more interesting, it occurs both in the selling and the buying countries.

As concerns the selling countries, protectionism had a clearly political character for a long time and was aimed primarily against the socialist countries. Recently, the need is frequently raised of selective economic protectionism to safeguard national interests. International successes of some of the technology importing countries served as a catalyst for this attitude.

Table 5. Index of Growth of Export of Machinery and Licenses Relative to General Export

Country	1960-1976		1960-1971		1971-1976	
	1	2	1	2	1	2
United States	1.28	1.48	1.30	2.17	0.98	0.68
France	1.48	0.42	1.36	0.96	1.08	0.76
FRG	1.07	0.76	1.06	1.30	1.08	0.59
Italy	1.32	1.12	1.28	1.15	1.03	0.97
Great Britain	1.14	1.24	1.01	1.91	1.13	0.65
Japan	2.38	5.90	1.90	5.99	1.25	0.98

- 1- Ratio of growth of export of machinery and equipment to general export
2- Ratio of growth of export of licenses to general export

Source: Calculations based on Table 3.

Among the purchasers, certain forms of protection against conditions and form of technology purchases initially developed mainly among the poorly developed countries. Recently, however, this is used more widely among highly industrialized countries⁸. Inter alia, this is the result of an effort to equalize the privileged position of technology seller in relation to technology buyer. The companies selling the technology often limit the use of licenses by numerous restricting clauses, especially regarding future export. Such clauses appear universally in contracts of technology purchase by the socialist countries. For instance, of all licenses bought by the CEMA countries (less Romania) during the period July 1977 through June 1978, about 50 percent included a clause limiting export of licensed production. The kinds of limitations are witnessed by the following data:

1. Prohibition of export	32.7
2. Export as component of complete equipment and installation	25.2
a) no territorial limitations	20.6
b) territorial limitations	4.7
3. Export permitted to designated export markets	35.5
--including through licensor	1.9
4. Export subject to licensor's approval	4.7
5. Quantitative limitation of export	0.9
6. Export limited in time	0.9

It may be presumed that protectionism, both at the governmental and the company level, will intensify as the level of technical development of individual countries becomes more equal and the struggle for technical leadership becomes more intense.

The structure of the world technology market is characterized by high concentration of demand and supply and the fact that changes in this respect take place very slowly. Thus, it should not be expected that the position of developing countries in this market will be strengthened (mostly on the demand side), especially if the ambitious development objectives of the OPEC countries are achieved.

The eighties should also bring an additional increase of the role of international corporations in the world technology market which stem from their further economic expansion in the capitalist world.

FOOTNOTES

1. J. Wileczynski: "Licenses in the East-West Transfer of Technology," JOURNAL of WORLD TRADE LAW, March/April 1977, No 2.
2. P. Hanson: "Forms and Dimensions of Technology Transfer between East and West," "Industrial Policies and Technology Transfer between East and West," (edited by C. T. Saunders), Springer Verlag, Wien-New York 1977, pp 149-164.
3. G. Monkiewicz: "General Description of the Machinery and Equipment Market in Contemporary Capitalism," INES PW papers, No 17/1977, pp 51-71.
4. BIKI No 142, 29 November 1977, p 4.
5. S. I. Simanowski: "Pieredacza technologii miedzy stranami czlenami CEEW, [Technology Transfer Among CEMA Member Countries] WOPROSY IZOBRIETATELSTWA, 5/1978, p 27.

6. More on this subject: J. Monisiewicz: "International Licensing Operations in Developed Capitalist Countries," PWN, Warsaw 1976, pp 119-134.
7. Survey of Current Business, 3/1977, p 44; Trade and Industry 12/02/1977; BIKI No 80, July 9 1977, p 4.
8. Cf. "Viele Huerden engen den Lizenzhandel ein, Zunehmender Protektionismus der Industriestaaten," [Many Obstacles Are Restricting License Trade, Increasing Protectionism of the Industrial States] HANDELSBLATT, 12 September 1977.

8501

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MINISTER DWELLS ON POWER GENERATION CAPACITY

Sofia ENERGETIKA in Bulgarian No 6, 1980 pp 3-4

[Greetings presented by Power Supply Minister Nikola Todorov to the Bulgarian power workers on the occasion of Power Worker's Day: "Looking Confidently at the Eighth Five-Year Plan"]

[Text] Once again, this year, we are celebrating our professional holiday--Bulgarian Power Worker Day--in a cheerful mood, high spirits, and optimism.

In the short period of the calendar year between the two June holidays of 1979 and 1980, our labor collectives scored a number of significant accomplishments.

Let us warmly congratulate ourselves for these good accomplishments which give real grounds for a happy mood and a holiday spirit, and wish us new successes.

Every year, as the holiday comes, so comes the time to balance our achievements, see the pluses and minuses of our intensive work over the past year, and assess the activities of our daily labor, matters which, as Lenin said, "cannot be resolved through the heroism of the individual thrust but require the lengthiest, most adamant, and most difficult heroism of mass daily work."

Let us point out in this light that the main task set by the 11th BCP Congress on the accelerated development of the power industry sector is being systematically and successfully fulfilled.

In the language of figures, this means the following:

Last year per capita energy outlays exceeded 4,800 kilograms of conventional fuel; the expected figure for the end of this year is 5,100 kilograms. This is over double the average specific power consumption in the world and almost the average for Europe. At the same time, the structure of power consumption is substantially changing, in the course of which the share of electric power is rising emphatically.

In 1979 specific electric power consumption in our country reached 4,106 kilowatt hours per capita annually, compared with 2,280 kilowatt hours in 1970. Today in terms of this indicator our country has outstripped Italy, our neighboring countries, and most CEMA-member countries.

Installed capacities in electric power plants in the country total 8,343 megawatts, while their annual output is about 33 billion kilowatt hours electric power. Within that period the final--sixth--block of the Varna TETs [Thermoelectric Power Plant] was commissioned. Today, with its 1,260 megawatts, it is the biggest Bulgarian thermoelectric power plant and the biggest on the Balkan Peninsula as well. The third 210-megawatt block was commissioned at the Maritsa-Istok III TETs, raising the capacity of the complex to 1,730 megawatts, most favorably located close to the fuel source.

By the end of this year the electric production capacities in the country will be increased by about 470 megawatts of new capacities following the commissioning of the third nuclear reactor at the Kozloduy AETs [Nuclear Electric Power Plant], and a hydraulic turbine generating 27 megawatts at the Spashevo VETs [Hydroelectric Power Plant].

These scales are the result of the April party course of developing a powerful energy base for the country as the main prerequisite for the further intensive development of the national economy and raising the living standard of the population.

No similar period has taken place in our power industry, in the course of which such a large amount of electric power production capacities have been commissioned within such a short time!

Assessing the work for the autumn and winter preparation of the power production capacities for the 1979-1980 season, we noted that considerable and, let us emphasize, effective efforts were made to secure all prerequisites for normal power supply deliveries to the national economy.

Indeed, after the last March cold weather, we were able to note with satisfaction that the work this winter was better. The national economy and the population were supplied with electric power, heat, and coal on a rhythmical and uninterrupted basis. There was sufficient water in the dams and the hydroelectric power plants worked well and even produced more than planned.

The alarming statement on the balance for the autumn-winter preparations comes from the status of supplying thermoelectric power plants with coal. Difficult weather conditions hindered the extraction and delivery of coal to the Maritsa-Istok III TETs, the Bobov Dol TETs and the Varna TETs suffered from delivery shortages. For this reason the basic thermoelectric capacities worked during this season at a reduced rate.

This year's experience leads to a categorical conclusion. Considering the absolute increase in the power capacity of the system, the improved quality of repair activities, and higher level of operativeness and technological discipline in electric power plants, the question of coal procurement remains unresolved.

Therefore, at the present stage the first task is to secure coal for the thermoelectric power plants. Coal, coal, and coal again! This is the key for a confident and calm expectation of the 1980-1981 winter!

We must point out that, of late, our coal extraction has achieved considerable successes. The course charted toward maximum utilization of local fuels, basic in the energy policy of our party, necessitated a fast increase in the development of coal extraction, to be expanded even further in the future.

Bulgarian coal extraction increased over tenfold between 1944 and 1979.

The development of low-caloric coal at the Maritsa-Iztok Power Production Complex is particularly important. The results of the 3-year practical experience in direct burning of such coal by the Maritsa-Iztok 111 TETs determine the priority in the application of the new technology in the reconstruction of the existing Maritsa-Iztok power plants and the new plants to be built within the complex.

As a result of the policy of restricting the use of liquid fuels, plants operating on fuel oil and natural gas reduced last year their output by 15.6 percent. Conversely, the output of the TETs rose considerably. While electric power output within the system rose by a total of 5.7 percent, over one-half of the increase--58 percent--was accounted for by the thermoelectric power plants. Improvements in a basic technical and economic TETs indicator--specific outlays of conventional fuel for the production of electric power--is a remarkable achievement for the period under consideration. In one year it was reduced by 7.4 grams per kilowatt hour. This means a considerable reduction in fuel outlays within the system.

Let us particularly mention the traditionally significant contribution of the nuclear electric power plant near Kozloduy to the work of the power system. With a record annual output of over six billion kilowatt hours, it provided about 20 percent of the overall amount of electric power consumed by the national economy. In terms of this indicator--the share of nuclear energy overall electric power production--currently Bulgaria is third in the world, after Belgium and Sweden. Let us also mention that the average figure for Europe is about 6 percent.

The accelerated development of the nuclear power industry will be continued at a high pace. Along with improvements in traditional power production methods and the ever greater use of local power resources, in

the years to come the nuclear power industry will not retain but increase its significance as a strategic trend for the satisfaction of the power needs of our country. Thus, by 1985 its share will reach 30 percent; by the end of our century, it will account for nearly 50 percent of the overall electric power production.

Thirty years ago we created a centralized dispatcher control. Over the past 30 years the Unified Electric Power System of the country expanded substantially on the basis of modern concepts governing big electric power grids. As early as 1949 it crossed the Bulgarian border following the first energy exchange linkage with Romania. Today it is coordinated with the Joint Power System and the Joint Power System of the USSR through the Dunav and Bruchba electric power cables.

This year a number of power cables and new transformer capacities for 400 and 110 kilowatts will be commissioned. This will considerably improve electric power supplies to consumers and the reliability of the system.

We could say that over the past year a successful step was taken in the development and implementation of the third basic direction of our energy policy--upgrading the power effectiveness of the national economy and of resource and power conservation. The time has come for this domestic national energy source, until recently underestimated, neglected, or simply abandoned throughout the world, during the period of the extensive invasion of petroleum in the economy, to assume its proper place in the energy balances of all countries. Today resource and energy conservation are strategic trends in the energy program of virtually all countries, for the energy problem proved even to the biggest optimists that the energy ocean is not infinite and that wasting resources is not a characteristic of wealth.

The significance of this source will increase even further particularly in a country such as ours whose resources are rather poor and limited.

Naturally, when we speak of the third energy source for the power industry we cannot undertake its development within the range of tasks of our ministry. This is a task of national significance and it is not an accident that it is being discussed with great concern at the highest party levels and has been the object of a number of state orders in recent years.

This big nationwide task is functionally under the management of the Ministry of Power Supply. Control over the consumption of power resources and the technical condition and effectiveness of power facilities of industrial enterprises is the basic duty of the State Energy Control Inspectorate.

Upgrading the effectiveness of power consumption is the task of the new Industrial Power Industry Combine and, naturally, of all collectives within the ministry's system, whose counterplans give adequate space to this task.

In the application of the two basic criteria for the development of the national fuel-energy base--thrifty utilization of resources and their longer-term conservation--we greatly rely on the activities of the scientific workers and specialists of our engineering-application organizations--the Energoproekt NIPPIES [Scientific Research Planning and Design Institute for Power Systems], Tekhnergo NPP [Scientific Production Enterprise], Industrial Power Industry NPK [Scientific Production Combine], New Energy Sources NPSK [Scientific Production Economic Combine], development bases, etc. They must truly become the "brain trust" of the power system. They must formulate and implement the ministry's technical policy and strategy. In the next stage of building a developed socialist society, high rates of economic growth can be achieved mainly through the application of the most promising trends of scientific and technical progress.

The task of mastering leading Bulgarian and foreign scientific and technical achievements must be implemented, above all, in the basic economic sectors, such as the power industry. In this sense, the Eighth Five-Year Plan will be a five-year plan of qualitatively new labor--not only in terms of the skills and high professionalism of the workers and specialists in the power industry, but in terms of their creative manifestations, extent of intellectualization, and inner convictions and conscientiousness.

We are entering the 1980's with an energy potential comparable to that of the advanced countries. The scales of our power base and the program which we have elaborated for its development through the year 2000, based on our own possibilities and our integration relations with the USSR and the other CEMA-member countries, are the sources of our confidence in the future.

Realism and a proper concept of the energy problem give no grounds for pessimism. We have everything necessary to cope with the numerous and complex tasks of future development, avoid energy hunger and make our lives better and more attractive.

The main thing which we must not forget is that this depends on ourselves alone, on our efforts, skill, and ambition, on our organization and creative zeal.

Enriching with every passing year the tradition of our holiday with new experience, we shall be able in the future, like today, to welcome this date with confidence, high spirits, and greater prestige.

Happy Power Workers' Day!

5003
CSO:2200

MAINTENANCE PROCEDURE OF ATOMIC POWER STATION DESCRIBED

Sofia ENERGETIKA in Bulgarian No 6, 1980 pp 22-23

[Article by Candidate of Technical Sciences Engineer Mikhail Anastasov, and Engineer Dimitur Vishev, Energoproekt NIPPIES [Scientific Research Planning and Design Institute for Power Systems]: "Insuring Shock-Free Activation of the Condenser Cleaning System at the Kozloduy AETs [Nuclear Electric Power Plant]"]

[Text] At the Kozloduy AETs, the cleaning of the piping system is achieved through rubber balls. To this effect a fixed ball-catching net has been mounted in the turning part of the circulation pipe, from which the rubber balls are taken to the feeding section of the circulation pipe with a water pump. This insures the steady flushing of the condenser pipes and the maintenance of a maximum possible vacuum.

At the Kozloduy AETs this type of system for condenser cleaning could not be used until recently, for the ball-catching net would tear up when the circulation pumps would be activated.

Studies indicated that the reasons for the tearing of the cleaning system net were the following:

The ejectors cannot extract the air from the pipe system of the cooling water before activation. The vacuum they create is about 55 kPa (5.5 mmHg), while the difference between the levels of the lowest water level NNVN and the condenser axle is 7.347 meters. Furthermore, there is an additional 2.5 meter difference in height between the lower part of the condenser axle and the output chamber;

An air pillow forms in the area of the rotating pipe shaft, where the net is located, triggering the vibration of the net and contributing to its separation.

When the circulation pumps are engaged the air cannot be extracted from the pipes. The water falls on the net from a height of over 4 meters and breaks it immediately. Figure 1 indicates the place where the ball-catching net is located.

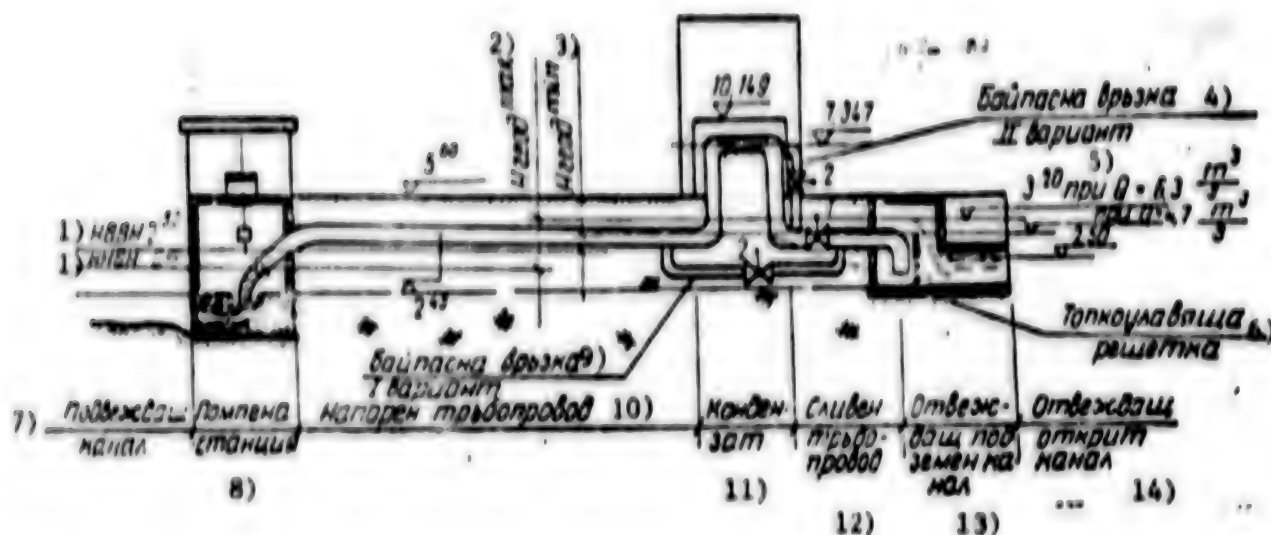


Fig. 1.

Key:	(1) NNVN	(8) Pumping station
	(2) H geod max.	(9) Bypass connection first alternate
	(3) N geod min.	(10) Pressure pipe
	(4) Bypass connection second alternate	(11) Condensate
	(5) When	(12) Merging pipe
	(6) Ball-catching net	(13) Outflow underground canal
	(7) Leading canal	(14) Outflow surface canal

In order to prevent the tearing of the ball-catching net and insure the shock-free letting of the cooling water, two alternates were developed for the reconstruction of circulation pipes along with a proper activation technology.

Essentially, both alternates are based on the same principle: at the initial point of the engagement of the circulation pumps the water does not go through the net but is bypassed. At the same time, the air is removed from the section in which the net is installed under the effect of static pressure.

In the first variant the bypass connection links the feeding and returning pipe of the cooling water (Fig. 1, alternate 1). The bypass has a diameter of $\varnothing 800$ and a disc tap Du 800, Ru 1.0 MRa. The distance between the two pipes is about 2.40 meters (4.50 meters between the axes of the pipelines). The activation of the circulation pump takes place with a closed disc tap of $\varnothing 2,000$ (Fig. 1-1, alternate 1), and an open disc tap of the bypass $\varnothing 800$ (Fig. 1-2, alternate 1). The net is in a dead

pressure section under whose influence the air is removed, after which the tap $\varnothing 2,000$ opens, while the tap $\varnothing 800$ is locked and the circulation pump begins to work normally. We must bear in mind that the activation of the circulation pump takes place at an angle of rotation of the blades of the working wheel $\alpha = -3^{\circ}30'$ and a rotation speed of $n = 365 \text{ min}^{-1}$. With such a technology of letting the cooling water in no shock would result on the ball-catching net.

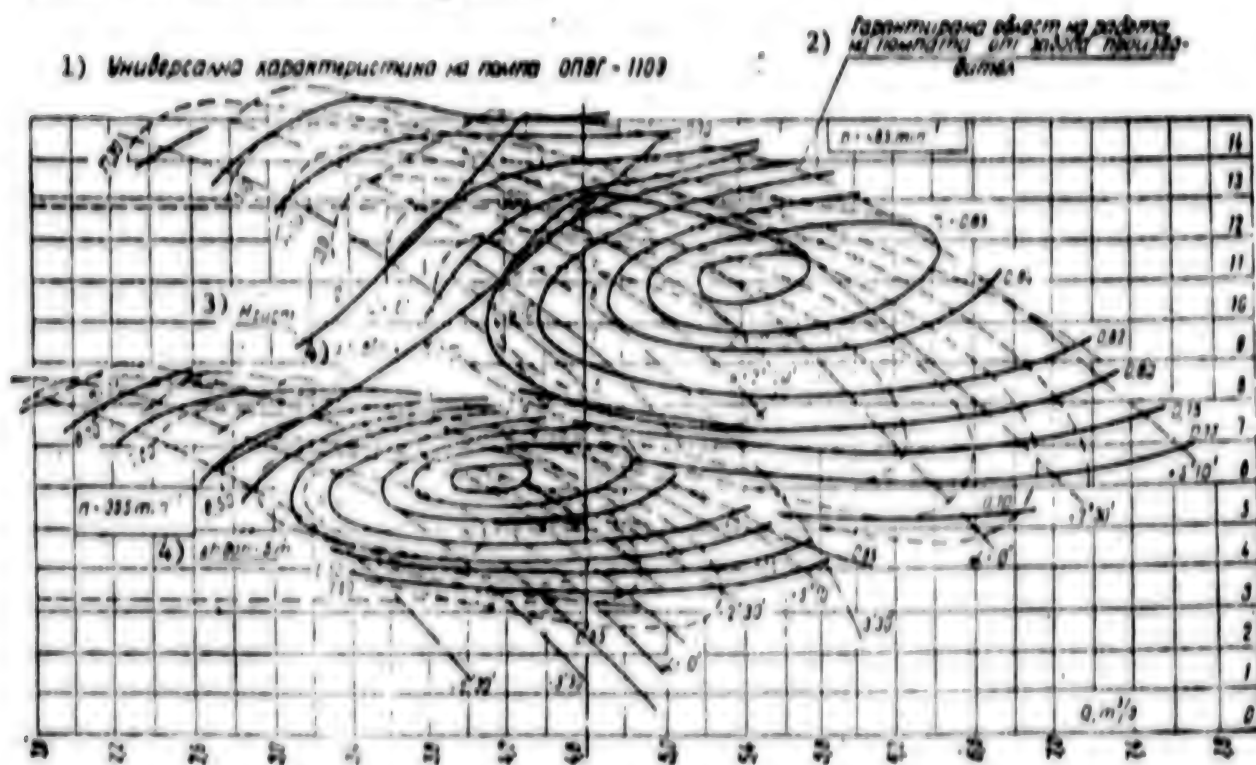


Fig. 2.

- Key: (1) General description of pump OPVG-1103.
 (2) Guaranteed work area of the pump by the producer.
 (3) H system
 (4) Additional

Preliminary estimates indicate that at the initial time of activation of the circulation pump, according to the first alternate, the compressed air in the dead sector near the tap $\varnothing 2,000$, in the merging pipe will prevent the pouring of water from the condenser to the ball-catching net which has been the reason for tearing it up.

The maximum amount of pressure p_1 in the dead sector, in the course of which the air will be compressed before the first activation of the water in the condenser, i.e., at the initial moment of the activation of the pump until it is filled with water, is computed according to the equation $V_0 P_0 = RT$.

The process is considered isothermal.

The condenser volume along the circulation tract is 442.5 cubic meters.

The volume of the circulation pipe in the dead sector is approximately $LF = 70 \times 3.14 = 220$ cubic meters, in which L is the length of the pipe in the sector, 70 meters; F is the cross section of the pipe $\varnothing 2,000$, 3.14 square meters. The overall volume of the dead section is $V_0 = 662.5$ cubic meters.

The volume to which the compression of the air is allowed so that spilling will occur is $V_1 = 259$ cubic meters. The height to be reached by the water and the volume from the second entrance in front of which a spillover 1.3 meters high board is mounted, remains in reserve.

On the basis of $V_0 P_0 = V_1 P_1$ we compute: $P_1 = \frac{V_0 P_0}{V_1}$, $P_1 = 255$ kPa.

The maximum superpressure which could be developed into the dead (bypassed) section is, consequently, 155 kPa. This is considerably higher than the factual amount at such an angle of the working wheel lathes and pump revolutions frequency.

In the second alternate the bypass connection is on the returning pipe (Fig. 1, alternate 2). Here again a disc tap $\varnothing 800$ is mounted on the bypass and the grooving is immediately after the disc tap $\varnothing 2,000$.

With this alternate, before the circulation pump is engaged, the sector following the condenser and up to the disc tap $\varnothing 2,000$ in which the net is located, must be filled with water. After the filling of the sector with an open disc tap $\varnothing 800$ (Fig. 1-2, alternate 2), and a minimum angle of the blades of the pump working wheel, the circulation pump is engaged. When total vacuum has been reached, the disc tap $\varnothing 2,000$ is opened while the disc tap $\varnothing 800$ is closed. The pump converts to a normal running system.

Computations have indicated that the hydraulic losses in the first alternate (Fig. 2-1) are lesser than the losses in the second (Fig. 2-2). This system is better also from the viewpoint of the developing of rocking. No rocking should result in either variant.

The study of both variants indicates that for technological and structural considerations the first alternate is better and has been recommended. Currently the cooling circulation pipes at the Kozloduy AETs are being reconstructed in accordance with this development.

5003

CSO: 2200

LONG-TERM CONTRACT SIGNIFICANCE IN PLANNED MANAGEMENT STRESSED

Prague HOSPODARSKE NOVINY in Czech 27 Jun 80 p 3

[Article by Frantisek Dusanek, JD, State Arbitration Office, CSSR: "The Commercial Contract, Basis of Long-Term Relations; Toward Improving the System of Planned Management"]

[Text] One of the factors affecting the operation of enterprises and economic management bodies is the legal basis for economic relationships and, within their framework, also individual instruments, particularly contract instruments. Consequently, the Set of Measures for Improving the Planned Management System of the National Economy after 1980 calls for a more systematic formulation of supplier-consumer relations in the planning process to make the contract system more efficient. The solution of these problems depends on uniform practices and theoretical understanding and is marked by certain new elements in the Set of Measures which will call for new or even creative approaches to fully comprehend and bring to life.

So that commercial contracts may become more effective than heretofore in raising the level of supplier-consumer relations and meeting the needs of society more satisfactorily, it is especially necessary that the process of entering into commercial contracts be closely connected with the work of preparing the plan and that on this basis commercial contracts systematically meet the plan's objectives both with respect to quality and quantity.

Management Instruments

The preparation, creation, specifications and supervision of state plans for development of the national economy are based on and originate with the operation of central bodies. Experience in building socialism, however, demonstrates that in managing the national economy it is necessary to apply fully the principle of democratic centralism. This means that in the formulation of the plan there is a broad area not only for management activities

of central bodies and other management bodies, but also for lively and self-initiated activity of enterprises, particularly in terms of their mutual relations which must of necessity produce and develop cooperation in carrying out the planned objectives.

The expanding goals of the current development of our socialist society place increased demands on management and at the same time also on individual instruments and the system of planned management of the national economy as a whole which must aim toward stimulating and increasing the efficiency of socialist production. If we want to know whether commercial contracts fill the task of management instruments, and to what extent, then the criteria must particularly devolve on whether commercial contracts influence the material production and economic activity of enterprises consistent with the needs of society.

Commercial contracts which organizations conclude shortly before meeting quarterly deliveries are carried out by providing the delivery of such an assortment of goods and within such time limits as the supplier is already prepared for. In such cases commercial contracts do not and cannot influence the material production or processing of the enterprise plan of production and the needs of society are not always fully satisfied because buyers are often compelled to accept the proffered assortment which may not fully correspond to their requirements.

The influence of commercial contracts on the formulation of the enterprise production plan and on determining the structure and detailed selection of goods consistent with the needs of buyers is thus increased in those cases where production planning is carried out according to general indicators (as a rule, so-called group assortments) and the time and even so-called detailed selections are not determined by planning decisions, generally by planning actions, and in cases where commercial contracts are drawn up with sufficient lead-time before the enterprise production plan is processed. The influence of commercial contracts in such cases is more pronounced and effective.

For this purpose the long-term contract serves best, especially a preparatory one, which is drawn up for a period of over 1 year (as a rule, for 5 years) and which permits organizations to delineate mutual cooperation "on a broader area" than is possible with a contract concluded on the basis of an annual plan. A commercial contract of this nature sets up better conditions for increasing the influence of buyers in the formulation of the production plan and improving their position in the process of satisfying the needs of society.

On this basis the Set of Measures calls for expanding the obligatory conclusion of long-term contracts, especially preparatory ones, which are to be drawn up also on the level of economic management bodies for the period of the entire five-year plan or the period of the planned objective on the basis of long-term planning documents.

Long-Term Contracts

The Set of Measures is based on the fact that, in order for long-term contracts as effective instruments directed toward satisfying society's needs to clearly penetrate economic practices, it is necessary to look for solutions particularly in the system of planning. Experience with developments so far shows that solving problems of increasing effectiveness of commercial contracts only in the contract system, without at the same time solving these problems within the system of planned management of the national economy, did not, in the past, bring about the desired results. Although as early as 1958 our legal regulations recognized the long-term preparatory contract as an individual type of contract (first under the title of capacity contract and then as contract on preparation of deliveries), contracts of this type were not used to the required extent. The fact that the annual plans were the basis for forming supplier-consumer relations influenced and limited the conclusion of long-term contracts to a considerable extent.

Consequently, the Set of Measures sees the basis for solving the problems of long-term contracts in the system of planning, as well as in seeing that both systems are mutually harmonious. So if the contractual system should be characterized by long-term elements in commercial relations, then the system of planning must also be characterized by this feature.

Consistency in this respect will be achieved by making the five-year plan the basic form of planning and the basis for organizing the economic operations of enterprises and of management bodies. Under these circumstances, given the increasing role of the five-year plan, conditions are favorable for the long-term contract, concluded in accordance with objectives prescribed by the five-year plan, becoming the basic form of cooperation between socialist organizations.

Such a commercial contract, especially of a preparatory nature, will also become the basis for commercial contracts concluded later for individual years or even for shorter periods. Organizations will thereby be able to draw up a plan of production for individual years taking into account agreements incorporated especially into long-term preparatory contracts. A commercial contract of this nature can thus fulfill its planning function not only by permitting a more detailed representation of the range of deliveries, but also by the fact that in certain cases and to a certain extent it can become the basis for planning. However, it is important that, in the formulation of the plan, commercial contracts be respected by appropriate bodies and organizations.

Consequently, the Set of Measures prescribes that long-term commercial contracts become the mandatory basis for determining goals for the preparation of the operational plan, for the specification of annual plans, balances and distribution plans.

If we stress the planning function of commercial contracts this in no way means that the contract should replace the leading role which the plan should play in influencing economic processes. The role of the plan is unique. This means that the objectives of the plan and its specification must precede the long-term contracts and that the goal of commercial contracts, even in this concept, is to make sure that the objectives of the plan will be duly met, including the gradual definition of the objectives set by the plan.

The Set of Measures is based on these premises and expresses the requirement that the conclusion of long-term contracts be based on long-term documents and the drawing up of these contracts in connection with the formulation of planning documents be conceived as mandatory and thus also enforceable by economic arbitration bodies.

One of the new elements is that the requirement for concluding long-term preparatory contracts is stressed even on the level of bodies of economic management. This will make it possible to organize supplier-consumer relations on a contractual basis within the framework of the VNIJ [Economic Production Unit] department and thus to a broader extent than if the contracts were drawn up between two enterprises. Such a contract will undoubtedly play a higher organizational role and will express greater responsibility of economic management bodies for supplying the national economy with required products.

Negotiating Supplier-Consumer Relations

The Set of Measures is based on the fact that the legal basis for negotiating supplier relations in the planning process, which was first issued here in 1972 and then amended in 1975 (and this year issued in decree No 48/1980 of SBIRKA), has proved itself in its basic concept and become not only beneficial societywide, but also objectively necessary. Basically, this involves a relatively independent system or subsystem which is partially incorporated in the planning system and partially in the process of contractually ensuring the plan objectives. It includes the stage of preparing drafts of state and economic plans in which objectives prescribed for compiling the plan are negotiated in horizontal relations and in which these objectives, are not only specified and put into concrete form, but in which their practical nature is also checked out.

The stage of the planning process culminates in the orderly preparation of the plan in which the draft of the plan is worked out and in which supplier-consumer relations concurrently begin to shape up and take form in connection with planning decisions and the state of planning work. Viewed from its functional purpose the negotiation of supplier-consumer relations than is directed toward the formulation of a quality plan, and at the same time also toward the creation of planning and legal conditions favorable to the conclusion of commercial contracts.

It can be stated that the quality of the process for assuring deliveries through contracts as well as the quality of the commercial contracts themselves are dependent on the level and quality of cooperation of enterprises and management bodies during the stage of plan preparation. On this basis the Set of Measures calls for further enhancing the system of negotiating supplier-consumer relations, particularly with respect to the need to establish and form long-term commercial relations. It was in this spirit that the State Planning Commission and the State Arbitration Office of the CSRR issued decree No 48/1980 of SBIRKA on assessing and negotiating supplier-consumer relations in the planning process which was effective 1 May 1980 and--contrary to previous legal procedures--is now the legal basis for including the preparation of mid-term plans.

Negotiating supplier-consumer relations in the planning process as a system also includes establishing methods and conditions for resolving any disputes that arise along the way. The solution of important disputes only after approval of the plan, and thus in the period of expected fulfillment of deliveries, raises a number of difficulties and reduces the authority of the plan as well as of the commercial contracts. Thus, in this stage of the planning process all differences must be eliminated along the line of economic management bodies. The Set of Measures--in view of the urgency of this problem--notes the need to settle disputes systematically at appropriate levels of management. It expresses at the same time the requirement to gradually apply the principle that in the stage of drawing up and specifying the plan, supplier-consumer relations must be established which are critical for the organizations in carrying out their plans.

Control Functions

A new element introduced recently in making use of commercial contracts is the procedure for assessing the activities of economic organizations in connection with meeting contractual obligations as was introduced in the USSR and the BLR [Bulgarian People's Republic]. Even though in certain particulars the Soviet and Bulgarian measures differ, it is possible to characterize them in the main as measures of the same type. Only deliveries made on the basis of commercial contracts are counted in fulfilling the delivery plan. The percentage of fulfillment determined in this way is the basis for payments to the fund for material stimulation and determines the amount of bonuses to supervisory economic workers and certain other categories of workers.

These measures are an expression of the growing tendency that increased effectiveness of the system of planning management of the national economic and individual instruments be directly dependent on specific results of economic operations of enterprises. It is an expression of the requirement that, as stated in the resolution of the CPCZ Central Committee Presidium and of the CSRR Government of March 1980, "the results of work of collectives as well as of individuals must be able to be expressed and assessed in accordance with their specific contributions to society."

For these reasons the Set of Measures requires, for effective economic stimulation of supply organizations, that the planned volume of deliveries due through commercial contracts on deliveries be "covered" within a short time after expiration of the ordering deadline before the particular quarter.

In this connection appropriate ministries are then required to reduce ordering periods so that they will represent only the time technically required for the actual preparation, production and delivery.

From the viewpoint of ultimate goals it is necessary to create conditions in the system of planning management that will give suppliers an economic interest in concluding commercial contracts and they will perceive the advantage of concluding them rather than declining to do so. This will also guarantee better satisfaction of the needs of society.

8491

CBO: 2400

CZECHOSLOVAKIA

EFFECTIVE PREPARATIONS FOR WINTER ENERGY USE URGED

Prague HOSPODARSKÉ NOVINY in Czech 18 Jul 80 p 7

[Article by Ing Milan Povolný, chief of Communist Party of Czechoslovakia Central Committee Fuel and Power Division: "In Summer Think About Winter: Steady Supply of Fuel and Power Should Not Lead to Complacency"]

[Text] One of the basic tasks assigned ministries, central agencies, production economic units and national committees by the Presidium of the Central Committee of the Communist Party of Czechoslovakia and the government of Czechoslovakia, as stated in the Conclusions on Procedures to Resolve the Fuel and Energy Situation, of 22 June 1979, was to proceed, on the basis of experience from the 1978/79 winter, with appropriate preparations to supply the economy and the general public with fuel and power in the winter of 1979/80. Accomplishment of this important economic task, implementation of which required extensive political-organizational work by party agencies and organizations, economic leaders and public organizations, was discussed on 13 June of this year by the Presidium of the Central Committee of the Communist Party of Czechoslovakia.

A general evaluation of performance in supplying the economy and general public with fuel and power last winter indicates that, in contrast to the serious deficiencies which occurred in the winter of 1978/79, there was no serious disruption in supply. Deliveries of electricity and heating gas were secured according to plan-specified limits without administrative control restrictions. The fuel-energy base thus created conditions for uninterrupted operation of the economy and smooth, uniform achievement of plan-specified targets.

Needed Stocks

While in general one can give a positive evaluation of supply performance last winter, we must combat tendencies to rest on one's laurels and to be complacent about further development in this area. The present situation

as regards fuel and energy sources as well as efficient utilization of fuels and energy gives no reason for complacency. Nor can we permit a lessening of the effort which was exerted in 1979 in accomplishing targets pertaining to the fuel-energy base and reducing energy demands on the economy.

The results of last winter indicated a decisive influence exerted by adequate pre-season stockpiling of solid fuels by consumers and maximum filling of underground fuel gas storage facilities for uninterrupted supply during the period of maximum consumption. Establishment of solid fuel stockpiles in the amount of approximately 9 million tons for our nation's economy by the end of 1979, a figure which is approximately 4.5 million tons greater than in 1978, was especially assisted by achievement of substantial fuel and energy savings which, for example, signified a decrease in coal consumption by 5.2 million tons from one year to the next, with approximately 2.8 million tons of this involved in generating electric power. A significant contribution toward fuel stockpiling was also made by bringing on-line, with subsequent reliable operation, of the first reactor at Jaslovské Bohunice V-1 Nuclear Power Plant, as well as surpassing both plan-targeted generation of electricity at this power plant and above-target coal production by approximately 400,000 tons.

Achievement of further improvement in the status of solid fuel stockpiles at power plants, central heating plants, at industrial enterprises and coal storage facilities in preparation for this winter must therefore be considered a basic task both of the Ministry of Fuels and Power and of all fuel consumers. Power generating plants must stockpile by 30 September of this year approximately 3.4-3.8 million tons of lignite and 1.1-1.3 million tons of bituminous coal. Sufficient preconditions have not yet been created, however, for accomplishing this target, especially failure to meet coal production and electric power delivery targets, and exceeding plan-targeted consumption of electric power by large consumers.

SHR (Northern Bohemian Lignite Basin) Is Not Meeting Production Targets

A total of approximately 51.5 million tons of coal was produced in the first five months of this year, which means 98.2 percent plan fulfillment. Contributing to failure to meet the production target is a production shortfall of more than 1.1 million tons in the Northern Bohemian Lignite Basin, with moderate surpassing of plan targets in the other coal basins. The seriousness of the problem of increasing coal production in the SHR both in 1980 and in succeeding years of the Seventh Five-Year Plan is heightened by serious underfulfillment of the plan target pertaining to stripping overburden. This year the target fulfillment shortfall is about 9 million cubic meters, while for the first four years of the present five-year plan loss in removal of overburden in comparison with coal production requirements amounts to approximately 100 million cubic meters. This situation is reflected in the generally low state of preparation of the concerns strip mines for targeted coal production and in

decrease in coal reserves readied for extraction, especially at the big Maxim Gorkij and Czechoslovak Army strip mines, which are being developed and expanded.

The reason for this state is a persisting poor degree of reliability and insufficient performance by new heavy equipment at the big strip mines, long delays in correcting problems on heavy equipment and long-distance belt transport, as well as delay and failure to meet equipment delivery schedules and in putting coal production facilities into operation in relation to the specified timetable.

In order to achieve a basic improvement in the situation in the Northern Bohemian Lignite Basin, it is essential that the DSHS (expansion unknown) and VMT* organizations and other interested agencies carry out the most essential measures in a radical manner and on an emergency basis, to increase stripping of overburden at the most important large strip mines and consistently ensure timely and high-quality renovation of KU 300, KU 800, and K 10,000 excavators, as well as long-distance conveyor belt transport in order to achieve the greatest possible utilization of this production equipment. It is also necessary to approach with considerably greater demandingness the delivery of new, high-output and reliable heavy-equipment technology, including additional mechanization.

The problems of the SHR also affect sources of graded coal. In spite of surpassing of targeted coal deliveries for domestic commerce last year by approximately 700,000 tons and by approximately 170,000 tons for the first five months of this year, the graded coal supply situation is tight due to steady growth in demand. It is therefore necessary in each kraj and okres to continue intelligent management of coal storage facility stocks, to prevent stocks on hand from dropping below the level achieved last year, and to ensure correct channeling of fuel sales, particularly for the general public, schools, hospitals and public facilities. More initiative must be shown in achieving savings in graded coal, both by greater utilization of cordwood and particularly by modification of boilers to burn lower grades of coal and fines.

For example, to adjust Slatina boilers, rated at 1.6 and 2.1 Gcal per hour, large numbers of which are in use, especially at block boiler facilities, one can utilize the improvement suggestion by Ing Pojar from the Plzen Kraj branch of the State Power Inspection, a suggestion which makes it possible to burn in these boilers coal fines or graded coal with a high percentage of fines, at the same time increasing output and efficiency.

Electric Power Consumption Is Rising

Growth in production and consumption of electric power also exerts decisive influence on establishment of fuel stockpiles for the coming winter. In the first five months of this year power generating plants in Czechoslovakia produced approximately 31 billion kilowatt hours of electric power, exceeding plan targets by 2 percent. Production is 8.9 percent greater than

* [Federal Ministry of Fuel and Power]

in the same period last year, and 6.6 percent above 1978. Percentage share of the annual electric power production target is also 1.4 percent this year above last year. One of the factors involved is the fact that, alongside failure to meet plan-specified deliveries, major consumers are exceeding plan-targeted consumption, which, with low production target fulfillment, especially of high energy-requirements products, is not in conformity with the overall growth dynamics of the nation's economy, and this also indicates inconsistent approaches to its rational and efficient utilization.

In addition, the power distribution system load demand diagram, which is characterized by increased loading during the morning and evening peak demand hours and by a marked decline in electric power consumption at times of work shift change and at night, indicates that it is necessary, especially on the part of all large power consumers, to approach in a more demanding way solution to the problem of achieving greater utilization of fixed assets, both during the course of the entire day and within work shifts.

Preparations for operations in the winter of 1980/81 demand that all ministries, central agencies, production enterprises and national committees already begin now, in the summer months, with appropriate preparations for this coming winter and elaborate measures to ensure uninterrupted supply of fuel and power as well as breakdown-free operation of all production facilities. It is necessary to proceed from the Position and Conclusions of the Presidium of the Central Committee of Communist Party of Czechoslovakia and the Government of Czechoslovakia on Progress in Resolving the Fuel and Energy Situation, dated 22 June 1979, as well as other measures adopted by party and government agencies pertaining to this problem.

It is necessary to devote particular attention to on-schedule and high-quality execution of the program of renovation and overhaul of mining, power generating, gas plant, distribution and other equipment and facilities of the fuel-energy base, and to step up the process of readying equipment, processes and facilities for operation under difficult winter conditions. Progress up to the present, for example, in major overhauls of 110 and 200 megawatt power generating units is not satisfactory. Because of delay in deliveries of replacement parts and an inadequate concentration of installation capabilities, there is occurring delay in performing overhauls or extension of overhaul completion dates. PMHS and PMPE must adopt effective measures to improve the current situation and to ensure on-time completion of plan-specified targets. In order to ensure uninterrupted fuel gas supply it is necessary to consider as a decisive task the filling of underground storage facilities to maximum capacity as well as readiness of tanks in pressure and other gas plant equipment for long-term attainment of maximum performance.

Securement of high-quality preparations for the winter season demands, especially in particularly important facilities of the fuel-energy base, rigorous inspection and verification of preparedness, with the participation of superior economic agencies.

The steadily increasing demand to secure new sources of fuels and energy further requires greater effort to achieve efficient fuel and energy utilization as the most effective means of improving the fuel-energy balance. The statement made by Comrade Gustav Husak, General Secretary of the Central Committee of the Communist Party of Czechoslovakia, at the 25th CPC Congress: "Even if in the Sixth Five-Year Plan we spent vast sums on securing sources of fuels and energy, it will be possible to meet growing requirements in an uninterrupted fashion only if we manage and husband fuel and energy at every work station" -- applies in full measure both to the present time and with even greater urgency to preparations for the Seventh Five-Year Plan.

Responsibly and Consistently

In the year 1979, especially on the basis of political pressure, we succeeded in reducing the energy demands of the economy, in exceeding by 41.9 percent the target specified by the state plan for greater efficiency in consumption of fuel and energy, and in achieving relative savings of 3.28 million tons of standard fuel. In spite of this fact, the attained level in management of fuel and energy sources fails to meet present-day demands, and in addition a number of targets in the state plan for achieving more efficient consumption of fuels and energy in the Sixth Five-Year Plan are not adequately secured. This applies in particular to measures aimed at creating preconditions in the material-technical foundation of production for achieving greater efficiency in consumption and utilization of fuels and energy by adopting new equipment and processes. For example, the FMHTS ministry was to ensure, beginning in 1979, that domestic demand for semiconductor welding machines is fully met. Last year, however, less than 50 percent of demand was met. The target calling for refurbishing 200 streetcars in the current five-year plan, utilizing thyristor equipment, has also not been accomplished, for 72 sets of thyristor equipment were delivered in 1976/78, none in 1979, and 16 units are anticipated in 1980.

In like manner, there has been inadequate production of measuring and control devices for household needs, civil construction and central heat supply to achieve substantial savings in fuel and energy. Therefore exceptions from the provisions of FMTHR [Federal Ministry of Metallurgy and Heavy Engineering] directive number 3/174, which requires that builders and designers incorporate such devices in new equipment, continue to be permitted.

Implementation of the program of achieving greater efficiency in consumption of fuels and energy this year and in subsequent years of the Seventh Five-Year Plan in all areas of industry and agriculture, in construction, transportation and municipal services should be considered

one of the basic political-economic tasks. Implementation of this task demands, with full personal responsibility on the part of officials for proper management of fuel and energy, organization among the worker masses of a mass economy movement, and to focus in this direction socialist competition, socialist labor brigades, comprehensive efficiency brigades, and additional innovator forms of worker initiative. Thus it is essential in the summer season to proceed with all seriousness and consistency, in all sectors of the economy, with the job of ensuring thorough preparedness for the coming winter.

3024

CSO: 2400

LOSSES DUE TO LOW QUALITY PRODUCTION RECOUNTED

Prague HOSPODARSKE NOVINY in Czech 27 Jun 80 p 7

[Article by Jozef Chadraba, Czech Statistical Bureau]

[Text] The drive for higher product quality ratings continued last year. In addition to the previously introduced material incentive stimuli geared toward the preferential pricing of products ranked in the class I quality category and the application of price reduction penalties for products falling into the class III quality category and the monitoring of the comprehensive product quality management system, last year's resolution No 178/77 of the government of the CSSR authorized the mandatory reporting of revenue losses attributable to the production of goods of substandard quality. On the basis of this government resolution the State Planning Commission issued instructions for imposing penalties for the production of poor quality goods. These instructions limit the scope of this resolution's impact to specific branches of the economy and related the types of losses traceable to the production of defective goods to specific consequences with regard to enterprise and personal incentive rewards.

Losses attributable to the production of goods of substandard quality are identified as follows:

- a) price cuts granted to buyers due to liability for defects in deliveries of goods of substandard quality;
- b) damages (penalties and fines) paid due to liability for defective goods deliveries;
- c) losses attributable to rejects received from outside suppliers, i.e., rejects that were identified after having been sold to customers;
- d) the costs of guaranty (warranty) repair work;
- e) fines assessed by the Office for Standardization and Measurements.

As of 1 January 1980 internally produced rejects which exceed allowable limits are also classified as losses attributable to the production of defective goods.

When calculating the deductible volume of labor and other costs and allowable allocations to special compensation funds losses attributable to the production of defective goods, considered as sanctions, are subtracted in their full amount from the volume of net income and from the volume of net profits. These losses have an impact on the amount of supplementary allocations to the cultural and social services fund. They also tend to reduce the profitability ratios of productive capital stock with all of the consequences this entails. As of 1 January 1979 the amounts of losses chargeable to the production of defective goods have been reported in quarterly financial statements.

Figures on losses attributable to the production of defective goods reported by individual economic production units and other organizations during the course of the year have been characterized by a number of inaccuracies resulting from the way in which the instructions of the State Planning Commission were put into practice. For example, during the first quarter of 1979 some enterprises did not cite any such figures due to delayed or vague instructions received from superior organs. The process of clarifying the instructions on the payment of penalties for poor quality production moved ahead during subsequent quarters, and at the close of 1979 a statement was published explaining some of the provisions contained in the instructions. Consequently, numerous corrections were made last year in the figures already reported. The table below shows the losses reported during the individual quarters of 1979 that are attributable to the production of defective goods.

**Revenue Losses Chargeable to the Production of Defective Goods
on the Territory of the CSR During 1979
(in thousands of Kcs)**

	<u>First Quarter</u>	<u>Second Quarter</u>	<u>Third Quarter</u>	<u>Fourth Quarter</u>	<u>Total losses for 1979</u>
Centrally regulated organizations on the territory of the CSR	158,357	190,755	132,274	162,204	643,590
Organizations regu- lated by the national committees	1,494	2,705	2,440	2,802	9,441
Producers cooperatives	1,297	1,529	1,961	3,707	8,494
Total losses of all socialist organiza- tions in the CSR	161,148	194,989	136,675	168,713	661,525

i.e., organizations regulated by federal agencies on the territory of the CSR and organizations regulated directly by the government of the CSR.

Losses chargeable to the production of defective goods amounting to Kcs 661.5 million accounted for 0.088 percent of total net income and for 0.79 percent of total net profits.

Losses in excess of this average were recorded by economic production units regulated by federal agencies. In these organizations losses chargeable to the production of defective goods accounted for 0.153 percent of total net income and for 1.28 percent of total profits. Breaking this down further, we find that enterprises regulated by the Federal Ministry of General Engineering report the highest losses of all chargeable to the production of poor quality goods, inasmuch as these losses account for 0.397 percent of total net income and for 3.29 percent of total profits. Construction enterprises regulated by the Ministry of the Construction Industry also showed an above-average ratio of losses chargeable to poor quality production work, i.e., 1.11 percent of total profits.

As far as enterprise material incentive sanctions are concerned, limits were imposed on the available wage funds of all enterprises which reported revenue losses chargeable to the production of goods of substandard quality, and this in turn generated pressure in favor of boosting work quality. The total amount of 1979 losses chargeable to the production of defective goods breaks down as follows for organizations regulated by:

- federal agencies on the territory of the CSR--69.8 percent
- the government of the CSR--27.5 percent
- national committees on the territory of the CSR--1.4 percent
- The Czech Union of Producers Cooperatives--1.3 percent.

The total amount of product quality losses incurred by organizations regulated by federal agencies breaks down to a share of 76.3 percent for the Federal Ministry of General Engineering and 21.4 percent for the Federal Ministry of Metallurgy and Heavy Engineering. The biggest such losses were reported by engineering enterprises such as Czechoslovak Automotive Plants--Prague, Tesla-Prague, Zbrojovka of Brno, Skoda-Plzen, and Ceskomoravska-Kolben-Danek Prague due to the large share of payments made for warranty repair work.

In the case of organizations regulated by the government of the CSR the Ministry of Industry accounted for 54.6 percent of total product quality losses, and the consumer goods industry accounted for 35.4 percent of these losses. The large share of losses incurred by the consumer goods industry was influenced in part by the performance of the Footwear Industry in Gottwaldov, the Wool Industry in Brno, the Apparel Industry in Prostějov, and the Sklo-Union enterprise in Teplice. Most of these losses have to do with product quality complaints, many of which were filed due to the inferior quality of subassembly deliveries or due to damage that occurred during shipping. In the case of the chemical industry the biggest losses were reported by the Czech Rubber and Plastic Products Plants of Gottwaldov.

In the Ministry of Construction, which accounts for 22.4 percent of the total losses incurred by organizations regulated by the government of the CSR, construction work is to blame for the biggest share (68.6 percent) of the losses chargeable to substandard production quality as a result of claims filed against improperly performed construction work.

In the Ministry of Agriculture and Food Supplies, with a 21.1 percent share of total losses, the food processing industry accounts for 78.5 percent of the total defective-goods losses of this ministry due to product quality claims filed against the Meat Products Industry, the Canned Goods Industry, the Poultry Products Plants, the Fats and Oils Industry, and the Breweries and Malthouse Industry. Losses attributable to the substandard performance of State Tractor Stations, especially during the fourth quarter of 1979, also went up sharply and came to a total of Kcs 6.4 million.

In the case of enterprises regulated by the national committees the biggest losses were reported by the Czechoslovak Automobile Repair Shops and local industry enterprises. Most of the losses incurred by producers cooperatives are related to claims filed against the delivery of defective products.

In view of the fact that on a national scale losses chargeable to the production of defective goods in 1979 amounted to around Kcs 1,145 million (not counting rejects produced internally) it is above all necessary, considering the general public interest in boosting the quality ratings of all goods and services, to pay more attention to management and organizational work.

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CSO: 2400

BRIEFS

HARVEST PROGRESS--Of the 329,068 hectares of perennial fodder crops slated for second mowing in the CSRR, less than 130,000 hectares--or 39.5 percent--have been mown thus far: West Slovakia fulfilled its planned targets by 76.3 percent to date, South Moravia by 41.1 percent, Central Bohemia by 38.9 percent, South Bohemia by 35.2 percent and East Slovakia by 32 percent; in other regions the second mowing of perennial crops is lagging because of the recent rains--thus the targets in the North Moravian region have been fulfilled only by 14.4 percent so far, in the East Bohemian region by 11.8 percent, in the North Bohemian region 10.8 percent and in the West Bohemian region by 10.1 percent only. The harvest of winter barley continues throughout the CSRR, and in some parts it has already been concluded. The harvest of rape also goes full speed ahead: in Slovakia farmers have delivered to the procurement centers 13,610 tons of rape, that is, 23.3 percent of the planned task. In Moravia, too, the procurement of rape has begun. As regards grain, of the total 314,455 hectares of grain in the West Slovak region 48,261 hectares--or 15.3 percent of the sown area--have been harvested to date. The harvest of spring barley and spring wheat has begun in the warmest regions of the republic. [AU021912 Prague RUDE PRAVO in Czech 30 Jul 80 p 1]

MORAVIAN BARLEY HARVEST--A total of 78 percent of this year's South Moravian winter barley crops is already in storage. [AU051230 Prague RUDE PRAVO in Czech 1 Aug 80 p 2 AU]

EAST SLOVAK TIMBER PRODUCTION--The current annual East Slovak timber production is more than 1.7 million cubic meters: deciduous trees constitute almost 65 percent of the total volume. [AU051230 Bratislava PRAVDA in Slovak 31 Jul 80 p 3]

TELEPHONES IN SLOVAKIA--At present, there are almost 850,000 telephone subscribers in Slovakia, and their number is expected to increase by 12,000 by the end of the current 5-year plan. In the course of the second quarter of 1980, telephone connections between the following locations had been automated in both directions: Banska Bystrica-Ruzomberok, Lucenec-Velky Krtis, and Kosice-Karlovy Vary. [AU051230 Prague LIDOVA DEMOKRACIE in Czech 1 Aug 80 p 3]

FLOOD DAMAGE--The Laborec and Cirocha rivers and some local creeks have caused "great damage" in Humenne District. The damage to property administrated by national committees is more than KCS23 million, the damage to agriculture is KCS80 million, damage to the forest and water economy is KCS4 million and the damage to privately-owned property is more than KCS100,000. Since some facilities are still inundated the final damage will be still "much higher." [AU051230 Bratislava PRAVDA in Slovak 31 Jul 80 p 2]

CSO: 2020

DEPARTMENT HEAD INTERVIEWED ON CONSUMER PRICE CHANGES

Budapest *MAGYAR NEMZET* in Hungarian 13 Jul 80 p 3

[Interview with Dr Ferenc Spilak, deputy head of the Main Department of Economics of the Domestic Trade Ministry, by Gabor Toth: "Consumer Prices"]

[Text] We are reading and hearing surprising news about the price explosions which are raging throughout the world. The international economic research institutes are continually reporting their ominous predictions about production stagnation, unemployment increase--and for our generation--price increases of unusual extent. (Western European countries are expecting an 11.5 percent inflation rate for this year.) This news is surely no joy to us, especially not now, when we are endeavoring to measure our economic effectiveness against the world market scale.

Dramatic price increases of the international type are unknown in Hungary. According to our goals and programs, they will remain unknown. Still, what is to be expected because of them? How will our prices develop this year? What will happen to them in the future? (Let us focus on consumer prices, because this worries the general public the most.) What means are there to prevent speculation either by individuals or by enterprises? Are there "restraints" at all? We posed these and similar questions to Dr Ferenc Spilak, deputy head of the Main Department of Economics of the Domestic Trade Ministry.

[Answer] A 3.7 percent consumer price increase is included in this year's economy plan. It must be reassuring that the increase during the first half year was between 1.6 and 1.8 percent.

[Question] It is encouraging, but it must appear to the shopper that whatever he is looking for keeps rising more and more steeply...

[Answer] In general, we all react in about the same way. The explanation is simple. Our consumers have become too accustomed to stable prices, to the fact that--despite economic problems--the prices of individual items have not moved either up or down for years. The new price system,

however, has created a different situation. In essence, prices can change more frequently, and--in accordance with our goals--adjusted to production prices and based on supply and demand, they can increase or decrease. I think that in the months that have elapsed so far this year shoppers may have become convinced that we are implementing the requirements of the new price system in this spirit, and that by price changes we also mean price reductions. For example, the prices of several clothing products have been reduced and ready-to-wear items, woolen yard goods, several mass produced goods, coffee, tea, hosiery, etc., have become cheaper.

[Question] ...And they have also disappeared from the stores.

[Answer] Unfortunately this was accidental and was not primarily related to the price changes. Industry fell behind in shipping, the imports were late, and at the same time, more was purchased than usual because of the weather. But for the coming months the supply appears to be reassuring, and the prices will remain at the lower levels. I am emphasizing this because we are unaccustomed in Hungary to having a price change, least of all a reduction. Nevertheless, this is a natural corollary to the new price system.

[Question] We are unaccustomed to it obviously because we have little experience with it. (And good experiences are especially few.) For the time being, we are only noticing that the number of scarce items has increased, and that there is less imported merchandise. It is as if the balance of supply and demand has deteriorated, although the new price system is based on it.

[Answer] Overall, the balance has not deteriorated, since we are maintaining last year's level of supply. In the current world situation this cannot be disparaged. It is our program for 1980. As far as imports are concerned, imports of socialist consumer goods, compared with previous years, are not increasing, but are even decreasing in certain product groups. Capitalist imports are also decreasing, and are changing in structure, bolstering their use as a means of compensating for internal shortages. (In the past 2 years, we have spent every fifth forint on imported items. Sooner or later and as much as possible, we shall change this ratio.) But the list of shortage goods is growing not only because of restricted imports, but also because at the beginning of the year there were basic material supply problems in industry in detergents and clothing products, and because many industry enterprises failed to fulfill their delivery obligations.

[Question] In this matter, pointing the finger at each other is common. But it appears that trade is more vulnerable...

[Answer] I would say that the "whip" of contract-breaking is resounding upon us many times. We are not aided much by the fact that we are exercising our rights. Consumers need merchandise, not penalty payments. Since today we must even put up a fight to build prices into contracts

made with industry enterprises--and this is a legal criterion and a civil law prescription--we should not overestimate the contractual guarantees. Another related problem is that of quality. We would like for producers to plan for local consumption and deliver domestically the same quality goods that they are exporting, especially because a large portion of domestic prices are adjusted to export prices.

[Question] Often we hear that the product structure alteration is, on the one hand, a boon (because the manufacturing of unprofitable products is being eliminated), and on the other hand, a problem (because important merchandise disappears from the stores). What is trade doing--what can it do--in this situation?

[Answer] The modernized regulation motivates producers to do everything within the enterprise to make manufacturing economical. If it is unsuccessful, we have the right, while observing the appropriate regulations (and after notification) to stop the production. Then we have two avenues left: either we supplement the short supply with imports, or, if it is more economical, we delegate another domestic producer to manufacture the article. The bank creates favorable credit conditions for the new producer, and together we develop prices through which the product can be more profitable. While this price is presumably higher than the previous one, it is our important trade policy principle to have prices a few percent higher for certain items rather than to have them missing from the stores. Naturally this procedure may only be utilized for uncontrolled price articles, and cannot be applied to basic consumer goods and foodstuffs. I will further remark that trade does not try to eliminate a scarcity situation--no matter what the origin--by raising prices. First it tries everything to procure the missing product. Last year, for example, we sought and found, through various actions, exchanges and scarcity item exhibitions, contractors to manufacture 370 million forints worth of merchandise basic--mostly small plants, and cooperatives. But the solution for the long range and on the national economy scale is not this, but a properly operating interest system, and the price mechanism within it.

[Question] This system is still plodding today. And one may fear that certain enterprises will see the "interest" in the raising of prices. How will the selection and price policies be developed together?

[Answer] The trade enterprises are interested in accommodating their supply selection, quantity and, of course, prices to the demand. Stated in another way: in their supply management our stores are not to endeavor to have a limited selection of a few expensive items, but just the opposite. It is an important goal of our supply and price policies to have an appropriate selection of low-priced items. For example, there should be a 60-forint athletic shirt in addition to the 120-forint one. The modernization of the consumption structure can only be achieved in this way. This must also be reflected in the pricing. Those who do not insist on the most stylish suits should be able to purchase clothing cheaply. The shopper who has unusual demands, however, should pay for his exclusive requirements.

[Question] What guarantee is there that this will not lead to excessive price increases? And in general, how "free" is the uncontrolled price?

[Answer] There are many guarantees. First of all, there is the official pricing of basic provision items. Nearly half of the merchandise in circulation and 90 percent of foodstuffs belong here. The uncontrolled price is very "restricted" economically, and legally, and is monitored. Enterprises cannot set their prices arbitrarily, according to their liking. The basis for the uncontrolled prices is the price level of capitalist exports. It is now a well known theme that, domestically, items may contain only the same profit ratios as they have on the world market. In addition, prices must be proportionate to each other, based on technical parameters, stylishness and usefulness. Enterprises prepare exact calculations and cost estimates of everything. These are regularly examined by price authorities, trade inspectorates and other organs. If these organs detect a disproportionately high price, unlawful price development or dishonest profit, they initiate sanctions. The examinations must be conducted very circumspectly and responsibly, because the very scarce business spirit and consumer confidence should not be imperiled. It is a fundamental principle of the new price mechanism development that entrepreneurial conduct and the acceptance of risks should yield the deserved return and result in a decent profit.

[Question] Now that you have mentioned confidence, could not the general public be better informed of the price changes, including announcements of central decisions and the "reassignment" of merchandise?

[Answer] Of course it is possible and this should be done! We are going to handle this matter with special care in the future. Under the new price system--when the prices are changing more frequently than usual and when enterprises may set different prices (at the same time) within their own sphere of authority--we cannot inform the population through the old method. In accordance with this, we have developed the new consumer information system through which, hopefully, we shall prevent all misunderstandings in the future. In connection with this, the pricing regulation prescribes the mandatory display of prices. We are aware that the implementation of this has caused considerable problems for trade, and aggravation for customers. We have worked out the system to accommodate this also, and have determined the industrial and trade tasks related to price notation and price display.

[Question] I have read somewhere that trade is the "line of fire." Simply stated, all the problems of the world economy are precipitated there--price explosion, structural change, and the worsening of exchange rates. The mere addition of three dates, 23 July, 7 January, and 1 April arouses nervousness among merchants. Even now, during the summer season, they have much to do...

[Answer] It would make me feel good to have the consumers become aware of the almost superhuman work performed by trade workers recently. They

had to switch over to a system with which neither they nor the customers were familiar, or had tried. One of the most important and most convenient, developed economic instruments is in their hands--the pricing mechanism. They must do business under economic circumstances which are more difficult to calculate. I feel that we have taken the first steps--with minor problems, but successfully overall.

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PROBLEMS OF PRESERVING INDUSTRIES PERSIST

Budapest NEPSZAVA in Hungarian 20 Jul 80 p 5

[Article by Vera Lendvai: "Lasting Problems in the Preserving Industry"]

[Text] The first big campaign task of the year, and one of the most difficult, is being completed these days in the canning industry--the processing of the green peas. Contracts with the agricultural operations for various types of vegetables exceed the plan by a total of 9 percent. And they shipped to the factories even more green peas than contracted for, primarily in Baranya Megye. This caused especially great problems in the Szigetvar factory because they took over the crop offered while struggling with the confusion of plenty. The goods purchased must get to the processing lines quickly in good quality so, with the coordination of the trust, other factories shared in the troubles of Szigetvar. In organizing this one viewpoint was to preserve quality but the other was to keep costs to a minimum. The world market has little respect for the extra expenditures. So they sought factories which were close to Baranya or close to the individual agricultural operations.

"We may have a similar task this year in processing the apricots too. We will have a good crop; there hasn't been one like this since 1974," said Miklos Olah, the production director for the trust. "But we have a big problem in general to produce our products in good quality and economically. Green peas and apricots are not everything because we produce nearly 600 types of products and the economicalness of them does not depend entirely on the quantity of the crop coming in, whether the crop is good or not so good, although this is the basic determining factor."

We did a quick calculation. What costs will burden, for example, the green peas, the domestic consumers' price of which is 14.20 forints per jar? What does each product involve? According to the standard a 1 liter jar of green peas has 55 decagrams of raw material. By the kilo this costs 3.50 forints. The jar costs 2.40 forints, the lid 1.50 and the labels 30-80 fillers each. Add to this wages, energy and other operational and transportation costs. The just profit of the industry and of commerce is nowhere to be found.

Quality! Quality! Quality!

"What we have to strive for--but not at any price--is to preserve the quality of the product, satisfy the market demand and have a nice appearance," explained commercial director Dr Oszkar Biro. "We have to see to it that the real interest relationships are realized for us as in agriculture and in trade. What do I mean? The production of red pepper, for example, brings significant results in agriculture. But in the canning industry the expected profit cannot be achieved because the raw material is not standard. This is a contradiction which must be recognized and resolved. All the more so, because we have other analyses which show that the natural indexes for the industry are not worse than those for, for example, the Austrians or Italians. But let's stick to our job today, the green peas. We bought all the goods we contracted for, and even more. We maintained the price we had set. We need the producers, but they need us too. We adhered to the protection price for the surplus but we did not always pay what was set in the contract. We made offers according to quality. Generally we could agree. We are old partners."

This year the 15 factories of the canning industry are set up to produce 730,000 tons of preserved goods. Only last year they produced 24 new products. They can prepare vegetables, meat dishes and even menus for astronauts.

The number of products this year is around 600. It would be difficult to say if this is too many or too few but in any case the industry is striving to develop and refine its product structure. The largest base for the goods bearing the Globuss trade name, which go to 67 countries, is the Soviet market. This is a long term base--it is guaranteed for decades on the basis of contracts already signed. Naturally the goods going there must be adapted to the customs in taste and composition. In the case of the other 66 countries too we must pay attention to the local gastronomic and, not least of all, food hygiene requirements. There has recently been increased interest in various fruit concentrates.

Competition is extraordinarily sharp in the canning industry too, as it is everywhere. The countries of the Common Market have invoked a number of provisions which are disadvantageous to us. In those countries where manpower is cheap they are gaining advantages by investing capital. Their customs regulations do not favor us either.

The Development of Small Machine Mechanization

So we can say again that we must appear on the external markets with products which offer "something more" and which are competitive on every market. The preserved goods sent must be more tasteful in external appearance too, more modern and with more lasting labels. There has been development here but there can be no doubt that this does not make the products cheaper.

"Most preserved foods are now produced in closed cycles," said Mrs Jozsef Organ, secretary of the EDOSZ [Trade Union of Food Industry Workers]. "Automatic lines carry out a number of work processes in addition to sterilization. This makes things much easier for the workers. But sealing the finished products, as in the case of the jars of green peas now, is still not solved. In some places this state of affairs is now causing manpower problems. For this reason the trade union also considers the development of small machine mechanization to be important. This is very hard work and we support the innovators in dealing with questions of material movement and modernization. Such goals could bring qualitative changes in the competitions of the socialist brigades."

"Unfortunately we are still haunted by manpower problems," Dr Oszkar Biro explained. "This affects us jointly with agriculture. For example, the products should be classified at the production end, according to the standards. But in few places do they have enough people to do it. So then they ship products of mixed quality. In the interest of the quality of the final product the industry tries to take over the products according to the standards; even the prices apply to standard goods. If there are disputes in anything then it is here. The path we have chosen, for example with the green peas and cucumbers, is to use the classifying machine lines already acquired. We would like to get halving machines for the peaches. The domestic customer expects the same thing as the foreign one, to find pitted, halved fruit in the jar. They would buy sour cherries more too if the fruit was uniform and pitted. We must gradually implement modern sealing and opening processes too."

Is The 600 Too Many Or Not?

Even in regard to domestic supply the question comes up: Is the 600 types of products too many or not? A few years ago when the Hungarian preserving industry began to manufacture, in Debrecen on the basis of a license, the world famous Maggi packaged soups they planned on an annual production of 1,000 tons. It proved to be too much. Now--after several years--there is a shortage of domestic Maggi cubes. The public likes them and trusts the maker. But development would require additional significant development. Another thing which seems trivial but which is of general interest is that there is a shortage of fish-soup cubes. The industry, in Szeged, processes every decagram of fish which the fish farmer sell them. But the fish farms have other obligations.

The production of diet and health foods also characterizes the development of preserving industry structure. We have heard much about this often. In bulk, as the representatives of the industry say, this demand is not so great but there is something wrong with distribution. They do not go everywhere so most often they are nowhere. The existing products, prepared with special processes, should be marketed more concentratedly so that a provincial diabetic, for example, should not have to shop around for a long time when he comes to the capital. The older pensioners would also like to buy diabetic jams and preserves in small sizes. This is a lesson for the industry too.

The industry will take a big step in the manufacture of baby food when the new factory in Kecakemet starts. The industry has found a partner for the production of outstanding baby foods in the pediatricians who worked out, together with the Preserving Industry Research Institute, the recipes which are being used. The producers are also participating enthusiastically in the program. The Kecakemet baby food factory will get purified vegetables and milk from Dabas and will get boned chicken prepared under completely sterile conditions from Hernad. The packaging sizes will be better and more economical for the customers too.

Preserved food manufacture is an indispensable branch of the food industry. The industry produces everything from fruit drinks to noodles. Fortunately the factories are defining their profiles ever more sharply so that a single factory will not become a "sundries shop." But better product coordination could make the branch more efficient.

8984

C80: 2500

MAIN DIRECTIONS OF ECONOMIC REFORM DISCUSSED

Warsaw KIERUNKI in Polish No 21, 25 May 80 p 8

[Article by Wladyslaw Jaworski: "Direction: Effectiveness."]

[Text] The slogan "effectiveness" is gaining ground at present. For the view is rightly and generally held that the only way to improve Poland's socio-economic situation is precisely to increase management efficiency.

Compel efficiency! That is the task given to everyone who participates in the economic life of the country, and especially to Poland's economists. In the pre-congress debate, it was just to them that Edward Giersek, first secretary of the PZPR Central Committee, appealed for active participation in efforts to improve the efficiency of Poland's economy. In the normal course of events one expects economists to provide the proper economic solutions. Edward Babiuch, the new prime minister, also said that in 1980 matters of improving the system of managing and controlling the economy will be continued and that they will become a subject of long-term, specific and consistent action.

The difficulty lies in the fact that there is agreement among economists as to the directions of the action, but there is a divergence of views on the question of how to act, how to proceed in a specific situation in order to achieve the intended goal: improving the efficiency of the Polish economy.

At present we have strong and modern production potential. How it will be used depends on us ourselves. Thus, there is a need for long-term, well thought out, and consistent action which runs counter to routine and convenience. Only this posture can summon full support from all of the social forces interested in rapidly eliminating the recognized inadequacies of our economy.

The Main Directions of Reforms

Every introduction of new methods of management or changes in organizational structure requires mature reflection. "Better less, but better" is an amusing commonplace which conveys the climate of the current approach to

these issues particularly accurately. All of our experience to date, and also the experience of the fraternal socialist countries, should be used to increase management efficiency. It seems that in the context of the resolution of the Eighth Party Congress and in the light of the debates underway we can show the main directions of this activity in the making quite clearly at present:

--The need to consolidate the strategic role of the "Center" is generally understood. The task of the "Center" will be to compel respect for the priorities of general social and political goals over the interests of particular social groups, regions, sectors or the larger industrial establishments. Let us not deceive ourselves into thinking that such particularisms do not occur in a socialist economy. Strong and effective central planning requires defined capabilities to make accurate and thoughtful decisions based on economic calculation and intensified problem analyses.

--The postulate of management by an economic accounting in the entire national economy, at all decisionmaking levels, runs parallel to the consolidation of the strategic role of the "Center." However, the harmonious implementation of the principle of general management by an economic accounting requires constant refinement of the price system well thought out to the end. Domestic prices of particular raw materials, products, and food do not always correspond to the world price ratios, which would not be so bad, moreover, except that they do not correspond primarily to the levels of real production costs. An inappropriate price structure and the level of prices for particular energy sources has to project especially unfavorably on the accounting of costs. Among other things, our economy is an excessive energy and transport consumer for these reasons. Therefore, the assumption seems very sound that gradual rebuilding of the price structure, as a basic parameter of choice and economic accounting, should start with mutual changes in the ratios of supply and investment prices.

Departing from the principle of fixed prices for basic consumer articles to the extent allowed is a categorical requirement for economic efficiency. But this truth still is not generally understood. With the fluctuation of prices, the degree of profitability in particular fields of production will decrease.

--A successive problem is connected with the size of investments. Rightful pride in the size of and increments in our national property have been mixed with a certain feeling of disappointment. On the one hand, we are dealing with continual and understandable investment pressure, yielding to which causes wavering of the balance in many sectors, however. Incomplete utilization of developed production capabilities worsens management efficiency on the scale of the whole national economy. Insufficiencies inherent in investment processes are the subject of multilateral, thorough evaluations, moreover. In view of this, it does not seem as if actually decreasing the "weight of investment," that is, the percentage share of investment in the national income, by half or by one-third would automatically solve all the

problems connected with it, including the market balance in particular. It is significant that the need for constant investment in development, in modernization or in the social infrastructure does not prompt great reservations on the part of the community. It is more a question of having investments become aimed, to a significantly greater extent than has been true thus far, at satisfying the most obvious social needs, such as housing, hospitals, food management, etc. and of having them skillfully bring the development of the whole economy into harmony and not lead to its dissociation according to the principle "The strongest will lead the way."

"To bring up the rear"--this frontline saying has deep meaning precisely on the investment front.

Investments--their scale and directions--have fundamental significance for the issue of market balance and for eliminating accrued disproportions as well as for mutual disharmony between particular elements in the economic process. The strategic role played by investments is seen most vividly precisely in analyzing management efficiency on a macro scale. Hence there is the explicit postulate of the need to consolidate total investment accounting from the standpoint of social benefits. A full accounting of the involvement of investments already begun is indispensable. In undertaking new investment decisions it would be especially necessary to examine the various alternatives, conditions and conceptional and planning solutions. Alternative investment planning, a full accounting of costs, and anticipated social and economic benefits together should provide an answer to the question of how to derive the optimal effect from the standpoint of Poland's assumed developmental goals. Without a comprehensive accounting of investment efficiency there can be no talk of any systematic reform of the management of our economy.

--Moreover, one of the more difficult issues seems to be to find a way to connect the role of the "Center" with the need to increase the independence and responsibility of the activities of economic organizations and the local administration. Strengthening central planning undoubtedly depends on greater concentration on the most important matters to the exclusion of secondary matters. This is a constantly recurring thesis, but it is precisely its obviousness which makes it difficult usually to implement on a practical basis. Bureaucratic tendencies will reassert themselves constantly, despite the repeatedly verified inefficiency and uselessness of methods of this kind specifically in relation to the postulate of improving the efficiency of our economy.

The release of creative economic activity, independence, responsibility, and initiative will not happen by itself, from day to day. This is an entire difficult, long-term and complicated process. Our reforms until now have been characterized both by a lack of comprehensiveness and by a lack of broad social support. This essentially self-critical evaluation comes from Poland's economists, who feel mutually responsible for certain inadequacies of our system of controlling and managing the national economy.

Debate on the Method

Some consensus of opinion exists among economists regarding the directions of activity aimed at improving the efficiency of our economy, excluding marginal extreme opinions, of course. The urgency of the issue also is emphasized. Time has its value, after all. But differences arise in evaluating the scope and manner of introducing changes. In view of that fact, is it not better to wait until the situation becomes clearer? Should the reform not be thought out more thoroughly, and then carried out quickly and all at once? And can the concept of immediate, fragmentary, instantaneous changes be accepted? Can we put in order those fields which are already suited for this at present, without waiting for some more favorable business outlook? I believe that an exchange of thoughts and views on this subject continues to be necessary, all the more so since a certain interesting model for proceeding, initially called the concept of phase changes, is in the making. In short, it depends on proceeding without special delay to the implementation of some of the postulated and necessary reforms to gain at least the vision of purposeful solutions. This assumption is quite difficult to execute, but it has the undeniable virtue of corresponding to the realities and possibilities of Poland's national economics.

8729

CSO: 2600

BENEFITS OF EXPORT OF TECHNICAL KNOW-HOW DISCUSSED

Warsaw HANDEL ZAGRANICZNY in Polish No 2, 1980 pp 16-20

[Article by Ryszard Rapacki: "Some Benefits of Technical Know-How Export"
-- Passages enclosed in slantlines printed in boldface]

[Text] During the past few years, exchanging technical know-how achievements has become the most dynamically developing field of international economic relations. It is estimated that the rate of turnover in technical know-how during the past 15-20 years was more than twice the rate of "traditional" goods in international trade.¹ Among the principal reasons for the increasing importance of technology transfer on an international scale are the advantages that can be gained from exports or imports of technical know-how.² There are various kinds of advantages, and they apply to the seller as well as to the buyer of technical know-how. These advantages affect the entire economy as well as those particular sectors, branches, and enterprises that are the direct subjects of sale or purchase transactions. This article is an attempt to show the most important advantages connected with exports of technical know-how on the larger level, that is, as regards the character and direction of the national economy's development.

As practices so far, exports of scientific-technical achievements have been one of the weakest elements in the process of a widely understood social process in Poland. A research-development support base and a high-level research cadre have been developed. There have been achievements that have won world renown in many fields of basic research. The economy has been saturated very heavily with a highly qualified labor force and modern means of production, including proportionally large-scale imports of technical know-how. Despite all this, cases of successful exports of Polish technical solutions, which would allow commencement of production on an industrial scale, are still regarded as rare. Among the many causes of this state of affairs are a low aptitude and inclination of the production sphere for innovation, lack of close orientation of research and development activities to the directions of production development, irregularities in the sales organization system, and in promoting and stimulating technical know-how exports. But a significant place among the causes is occupied, it seems, by rather subjective reasons. This is a matter of a lack of

understanding among managerial cadres of industrial enterprises and foreign trade. They do not understand the real meaning of exporting technical-scientific achievements, and they fail to appreciate the advantages that can be derived. On the other hand, an activity now stands, many of these advantages simply do not fit within the economic options of such enterprises, and they fall beyond the horizons of the enterprises' activities. Nevertheless, when one starts from the assumption that self-realization alone regarding the multifaceted advantages of technical know-how exports--especially within the whole context of international ties--can become a nucleus of changes leading to an increase in our economy's general capabilities for innovation, it becomes worthwhile to attempt to present these advantages.

It appears that if we are to place a particular accent on the specifics of activities connected with technical know-how exports and on the need to prepare a separate approach along with methods and means to achieve assumed goals, we should divide the advantages of exporting technical-scientific achievements into two groups. /The first group/ would include only those advantages obtained purely through initiation of technical know-how exports, independently of methods of promotion, material incentives, principles of trade policy, or methods of activity. /The second group/, on the other hand, would include all the beneficial effects for the exporting country deriving from its activity on foreign markets, an awareness of the aims and priorities of technical know-how exports, proper selection (and adjustment) of means of realization of economic policy, and, finally, the skill necessary for combining this type of export with other forms of economic ties abroad.

Looking at the matter from a somewhat different point of view, one can say that the criteria of the above division result in advantages of technical know-how exports divided between the exporter and the importer. Assuming a more or less equal degree of economic (and technical) development of both participants, one can expect, in the case of the first group, that the advantages are proportionately divided between seller and buyer. In other words, all the beneficial effects accruing to the seller will find their equivalent factors (although of a different kind) on the side of the buyer.

The advantages of the second kind, however, are a completely different matter. In this case, the exporter can take advantage of his privileged position resulting from the characteristics of his technical monopoly and from the very substance of the exported goods.³ He can thus obtain a number of different kinds of advantages (for example, from his right to raise prices, from imposing on the buyer certain conditions that would limit his freedom of action, etc.). These have no counterpart in the country of the importer and often may even represent losses to the buyer.

In connection with this, let us by a mutual agreement call the advantages of the first kind *gross advantages*. The seller will always obtain them when he undertakes exports of technical know-how. On the other hand, we

can define the second group as net (clear) advantages. They will result from technical know-how exports only when the seller fully understands the essence of technical monopoly and of the goods he exports and if he is able to exploit the possibilities which they offer. This division is in great part arbitrary since it is sometimes difficult to draw precise lines between the two groups under discussion. However, from the point of view of interest to us in this article, the division constitutes a device to simplify and guide further deliberations.

The export of technical know-how is characterized by one of the highest (if not the highest) profit margins. There are two reasons: First, this kind of activity has small requirements for material consumption. This lowers the considerably varying (and therefore overall) costs of manufacturing a given portion of the technical know-how. Second, and this appears to be more important within the context of matters of interest to us, it appears from the very specific characteristics of technical know-how that the same technical solution theoretically can be sold an unlimited number of times without touching one's holdings.⁴ In other words, technical know-how pertaining to a specific production application is manufactured only once (as differentiated from manufactured goods), and its manufacturing costs similarly are borne only once. However, income from the sale may, depending on the number of transactions, surpass by several times the amount of money expended for the manufacture of the given item.

The export of technical know-how can be treated, from that point of view, as an additional and exceptionally effective source of foreign exchange. Under certain circumstances this indicates possibilities of stabilization and greater flexibility of action in formulating a balanced budget. Although income from exports of scientific and technical know-how does not generally form a substantial portion of a country's balance of payments, it has a definite advantage over other sources of foreign exchange. Normally, such income is the subject of long-term commitments, and it normally is more stable than, say, revenue from exports of traditional goods. In this way, with some types of transactions (like the sale of licenses), such income represents not only a one-time injection of foreign currency (i.e., fixed license fee), but it also makes for a steady flow of foreign exchange resulting from the provisions of sale or purchase agreements, (i.e., royalties or various periodic fees which form a fixed percentage of either sales or licensed production). This takes on a particularly important meaning during periods when the exporter has economic difficulties. Thanks to the sale of technical know-how, he gains a steady source of foreign exchange independent of circumstances. At the same time, technical know-how exports may become, under certain circumstances, a very important factor in promoting exports of goods, opening to the latter some foreign markets that are hard to reach.

In Poland's foreign trade activities it was common practice so far to treat technical know-how exports as an adjunct, often of marginal value, to exports of industrial goods, particularly investment products. This approach was justified to a certain degree. Exports of machinery and

equipment and of complete installations, particularly to lesser developed countries, often demanded adaptation to the conditions of the recipient, assistance in installation of particular equipment, supervision during the activation phase, insuring satisfactory technical services, training of local cadre, etc. This type of technical assistance, together with the value of licenses and technical documentation transferred along with a complete installation, was computed into the overall value of the contract. This normally did not provide for separation of the "pure" portion of the technical know-how exports.

The experiences of other countries and the tendencies observed in the field of technical know-how transfer on an international scale indicate that the above liability can be turned around successfully. In the long-term view, exports of technical know-how can directly or indirectly stimulate exports of investment products and, to some extent, export of semicomponents, parts, and elements (so-called cooperating export). It also can stimulate exports of raw materials and other materials required to initiate production (so-called provisioning export). The promotion of investment exports is derived principally from the fact that technical solutions, once applied, predetermine to a great extent the future directions (trends) of purchases of the means of production. This may take the form of exchange of used (used-up) production machinery components or certain investments that are indispensable to the assimilation of further improvements in the technical operations conducted by the exporter.⁵

The purchase of technical know-how in the form of (for example) licenses frequently must be accompanied within a short time by purchase of machinery and equipment, auxiliary items, or supplies. This could happen as a result of actual difficulties encountered by the importer in the comprehensive management of the acquired solution,⁶ or it could be connected to the conditions of a contract which imposes on the licensee stipulations of linked imports. In the latter case, some elements of the technical know-how may even be available in the licensee's country. However, he will be forced to import them in whole or in part.⁷

Technical know-how exports, as stressed above, stimulate exports of goods not only directly but also indirectly. A very pertinent, though not always measurable role is played by psychological factors. The position earned on a given market by the exporter of technical know-how (the deciding role is played here by the level and quality of offered technology, conditions of delivery, and a widely known competence of the seller's activities) can greatly influence attitudes of economic circles in the importing country toward the quality and technical level of /all/ goods originating from the same source as the technical know-how, the latter having spoken for itself while working for the buyer. In the same way, though in a different manner, promotion of the export of goods is influenced by all those technical know-how exports which come in the form of personnel (i.e., "export" of specialists or training of personnel from the technology importer's country).⁸ Exports of technical know-how determine to a great extent the

present and the future possibilities of expansion of exports in the field of traditional goods. Acting in the same direction is the fact that additional influence may be obtained from propaganda exploitation of technical know-how sales. This possibility attains additional significance in a situation where, for example, the technology purchaser is manufacturing certain goods based on that very technology. In such case this constitutes additional (and free) advertising for the goods, which in turn may be reflected in increased export revenue.

In the practices of international business relations accepted at present the export of technical know-how is more and more beginning to be treated as an initial step to entry into foreign markets. It permits an examination of possibilities for widening other forms of expansion later and, if warranted, expansion of activities into other fields. In connection with the above, one can more and more often see the following sequence of events: Initially, technical know-how is exported to obtain an insight into the situation and possibilities in a given market. Next, should such possibilities offer themselves, consolidation and expansion of attained positions is attempted through direct investments and/or further expansion of exports.

Under certain circumstances, exports of technical know-how constitute not only an introduction to foreign markets, but it may be the only possibility for such an introduction. This occurs when exports of goods and/or capital to specific foreign countries are unprofitable or impossible because of high tariff barriers, transportation costs, existing legislative restraints relative to the influx of foreign capital, or because of a high "critical threshold" of entry costs to these markets, not to mention advertising, sales network, organization, and so forth.

In the situation just described, the export of technical know-how makes it possible to a considerable degree to neutralize the influence of local legislative restrictions which limit the extent of direct foreign investments. One case may occur, for example, when the export of technical know-how is included within the framework of industrial cooperation. The customs regulations of many countries generally are more lenient toward deliveries of parts and sub-assemblies, machinery and equipment, or components in connection with a cooperation agreement than they are toward independent imports of such goods. In another case, the export of know-how may from time to time permit a certain degree of control over the decisions of the knowledge-importing enterprise and thus a realization of advantages. This could be compared with a situation in which direct investments are made, although without intermediaries or with only small capital investment. This will be discussed later in this article.

One can sum up on the basis of the above conclusions that technical know-how exports contribute to the activation of the dynamics of goods and/or capital exports while increasing the level of investment returns. In the case of exports of goods, costs are lowered (i.e., by lowering of customs duties

paid by the exporter). In the case of capital exports, a given objective can be attained with considerably smaller resources, so that a portion of the capital will be freed and may be used for other purposes. The export of technical know-how becomes particularly purposeful and profitable in the present-day phase of the development of formative forces. The ever increasing temp of technical progress causes certain technical solutions to become obsolete rather rapidly. In the long run, far greater advantages are obtained from the liquidation of a technical monopoly through the export of technical know-how than by holding on to the monopoly up to the moment when the old technology is supplanted by a (more productive) new technology. Thus the sale of technical know-how at the proper moment will guarantee maximum profits to the exporter.

The so-called theory of product life cycle also advocates the purposefulness of liquidating technical monopoly prior to technology change. According to this theory, a given product on the market passes through three basic phases: Procurement of the market, when sales grow rather slowly; expansion and stabilization at a high level; and eventually, following market saturation, a decrease in sales revenue. Technology export during the stabilization phase at high level or at the onset of the "turning point" will extend the "life" of the product by acquisition of other markets for it, often with lowered revenue and with lowered demand as to quality and whether the product is modern.

A given economy obtains advantages from exporting scientific-technical achievements not only on the plane of its economic contacts with the environment, but also, in at least some measure, on the internal plane. Speaking in very general terms, the export of technical know-how permits an increase in the internal stock of available developmental factors, increases their quality, and stimulates changes which lead to perfecting the economy's functioning mechanisms.

Export revenues also mean a return of part of the exporter's outlays for research and development. Thanks to the return of part of these outlays, the country gains additional means for further research in other fields or for the development on a larger scale of work in already existing directions. This in turn can favor, through the application of specific multiplication effects, the deepening of and justification for specialization of scientific research conducted within the country and in logical sequence, a formation of "export sectors" within the R&D sphere.

The influence of technical know-how exports on the national economy (within the above understanding) is not limited to financial aspects or to the R&D sphere. It can, in equal measure, play a role in transfiguration and codetermination of directions of changes within the sphere of material production. The export of technical know-how normally leads to a more permanent and long-term form of ties between seller and buyer than in the case in an ordinary exchange of goods. Some of these forms, (for example, industrial cooperation) introduce to the exporter's economy a particularly

desirable element of stabilization, thus at the same time reducing the degree of uncertainty in economic activities and making long-range planning possible. At the same time, the sale of technical know-how within the framework of industrial cooperation may result in transfer of a part of the goods manufacturing activities abroad, thus at the same time bringing relief to a portion of the exporter's manufacturing apparatus. This in turn may lead to further specialization of production, realization of derivative advantages resulting from its increased scale, lowering of production costs, and so forth. The sectors of production transferred abroad may under certain circumstances lead to an acceleration of the general tempo of economic growth in a given country.

Specialization of production resulting from initiation of cooperative partnership may also indicate its rationalization from the point of view of structure and degree of comparative scarcity of available production factors.¹⁰ For example, in a situation where capital is comparatively scarce in a given country, the "export" of the most capital-consuming kinds of productivity would indicate a better adaptation of the production structure to the structure of available resources, optimization of their consumption, decrease in the capital consumption factor (*ceteris paribus*) below the average for a given economy and, consequently, assuming no changes in the investment level, an accelerated tempo of economic growth.¹¹ The influence of such technical know-how exports on the tempo of economic growth also can manifest itself in a lowering of material consumption (and thus savings of raw materials), changes in production structure toward concentration of efforts on the most modern "science receptive" fields, a reduction of costs "incidental" to development (for example, costs connected with the pollution of man's natural environment), and so forth.

* * *

Consequently, the "net" advantages connected with exporting scientific-technical achievements may, as we have indicated, increase the scale of already achieved advantages (by the very action of initiating exports), but the exports do not create these advantages. Additionally, their achievement will most frequently signify a new loss for the importer of technical know-how. Exports of technology make it possible, under certain circumstances, to lessen temporarily difficulties troubling a country's economy. Through the medium of technical know-how sales abroad and the resulting sales transactions it becomes possible to transfer to the outside some temporary factors and engage in the so-called export of a crisis.¹²

A widely accepted practice in international sales of technical know-how is the escalation of prices for technical know-how and accompanying production outlays as compared to prices formulated on the so-called international free market (this is called "overpricing"). Research conducted in Latin American countries indicates that in some cases the degree of overpricing can approach a 16-fold increase in the actual value of the technical know-how.¹³ The application of "overpricing" is particularly simplified in cases where the

seller of the technical know-how simultaneously requires the importer by contract to purchase initial materials, components, parts, machinery, and equipment either from the exporter himself or from a specified source of such materials. Such practices lead to maximum profits by the exporter in two ways: in the first place, they make it possible for him to sell goods which, given other circumstances, he might find hard to sell (for example, if they are noncompetitive vis-a-vis equivalents originating from alternate sources). In the second place, conditional sales of the type described facilitate various price and tax manipulations and thus increase the volume and degree of profit realized by the exporter.

Exports of technical know-how make it possible to gain a certain degree of control over the buyer's decisions with a small outlay of capital or, in certain cases, even without capital outlay. The road to achieving this purpose is generally known as capitalizing on the know-how. This is done by ploughing back part or all of the income from the exports into the funding capital of the importer. It is in this very manner that more and more businesses recently have been founded on mixed capital (joint ventures). At the same time, one can see the phenomenon of taking over control of activities of individual local enterprises in a given country by foreign management groups. This takes place without the intermediary of capital, but as the result of contractual provisions for technical service agreements, technical aid in the form of consultation in the field of organization and management, and so forth. It is becoming apparent that under present conditions, it is far easier and more to the point to formulate strategic decisions for enterprises in one country from the point of view of the interests of another country. This takes place by means of participation in managing and directing these enterprises (either through consultation or through direct conduct of managerial functions by imported personnel). By the same token, the technical and economic dependency of the importer of technical know-how assumes a less obvious form and lower visibility, and it does not disturb (at least formally) the existing legislative restraints pertaining to the influx and extent of activity of foreign capital.

Another type of net advantage to the exporter of technical know-how is linked to the possibility of contractual restraints on the importer's freedom of activity and of imposing some unprofitable commitments on him. The most common contractual restraints pertain to the extent of production and sales, to prices on the importer's internal market and, particularly in connection with exports, to the course of the production process and R&D activities.

The so-called restrictive business practices directly or indirectly increase the exporter's profits. Some of these profits can be measured as increased sales revenue. Their impact therefore is one of the short term. However, many gains cannot be tied to the exporter's current activity; their impact normally manifests itself over a longer period.

* * *

It has to be realized clearly that most of the described advantages of technical know-how exports--and this is true equally of the first and the second group--have a purely potential character in the case of Poland. There are several reasons:

First, the present rate of exports is unusually low. It corresponds neither to the available economic or scientific-technical potential nor to the comparative indicators achieved in the area of technical know-how sales by countries close to Poland in development (particularly some socialist countries, such as Czechoslovakia and Hungary). The export rate also does not balance Poland's expenditures for importing technical know-how. To give an example, exports of licenses, the fastest developing means of international exchange, was typical for Poland. During the entire postwar period (1945-1978) we bought almost four times as many licenses (624) as we have sold (115). The value of this export was 27 times lower (85.8 million foreign exchange zlotys) than the expenditure for licenses import (close to 2.3 billion foreign exchange zlotys). This caused the balance of license revenue to be highly unprofitable for Poland. The proportion of balancing imports with exports for the entire period was barely 3.7 percent.

Second, the scope of advantages was limited by an improper export structure. The majority (about 80 percent) consisted of technical services, particularly so-called residual services (construction and assembly service). While bringing in foreign exchange, these are not conducive to creating multiplying effects (see above) to an extent as great as the sale of licenses, for instance. About 18 percent of foreign exchange revenue from exports of technological know-how came from sales of documentation, while barely 2 percent came from sales of licenses. The type of structure for license sales alone was unsatisfactory from the point of view of what is understood as long-term advantages and the dynamics of national economy. The subjects of these sales were chiefly solutions not fully developed and most frequently not even adapted to production. Independent of that, although this in itself made it more difficult to see or to find demand among buyers, there often tended to be other unfavorable phenomena.

It is generally known that in the field of international license sales, the so-called mixed license transaction (patent--production) is predominant. Within its framework, in addition to an indication of rights derived from the patent and the eventual technical documentation, one also sells the know-how, one insures the training of licensee employees, and frequently one also supplies materials, initial components, machinery, and equipment. In this manner, the sale of licenses leads to considerably larger economic effects and a deeper involvement of the licensor and the licensee than would be possible in a simple transfer of technical know-how in its "pure" form. Meanwhile, in Polish practice, principally pure licenses (patents) were being sold, their subject being mainly so-called "green innovations." This led directly to losses of potential export revenue which could have reinforced the balance of payments in cases where the sale of licenses

would be accompanied by derivative exports of goods. Indirectly, an avoidance (knowingly or unknowingly) of productive exploitation of an invention (often constituting a "first" on a global scale) in the country, caused additional burdening of the business balances. This resulted from the fact that the licensee, having undertaken production based on the purchased license, could in a short time begin to export new and competitive products. For Poland this could mean two kinds of losses: On the one hand, by not undertaking to exploit the invention at home, we deprived ourselves of income from exports of the goods produced as the result of the invention, thus "abdicated" in favor of the licensee. On the other hand, by not producing these goods at home we later and not too infrequently faced the need to import them.

Third, because of the lack of a proper policy in this field, the advantages to be gained from exports of technical know-how have remained to a great extent only theoretical. Specific transactions (this pertains in particular to the sales of documentation and licenses) of ~~the~~ were accidental, sporadic, and not interconnected with progress in other fields of economic, trade, or scientific-technological policy.

This divergence between theory and practice, to which attention has been brought in the latter part of this article, seems to indicate with even greater force the need for becoming apprised of /all/ advantages deriving from exports of technical know-how and for transformation of this awareness into practical activity.

FOOTNOTES

1. Compare: J. Mankiewicz: "International Licensing Operations in Developed Capitalist Countries," PWN, Warsaw 1976.
2. With reference to other causes of the establishment and development of an international technical know-how market, the author wrote in more detail in an article, "Economic Premises of International Know-How Transfer," HANDEL ZAGRANICZNY, 1975, Nr 2.
3. For more details on this subject see: J. Mankiewicz, Ibid.; R. Rapacki, "Particular Character of Technical Know-How Export," Industrial Development Institute, SGPIB, multilith leaflet, 1978.
4. One can also say that the elasticity of supply of technical know-how approaches infinity.
5. Compare: J. Cieplik, R. Rapacki: "Technical Know-How Export," ZYCIE GOSPODARCE No 43, 27 Oct 74.
6. These difficulties may result, for example, from a unique characteristic of the purchased solution and a lack of possibilities to adapt to it in

the country's investment production, either cooperating or provisioning. This phenomenon has a rather general impact in that in this type of transaction the subject of the transaction seldom becomes the subject of the invention protected by the patent, as it is generally sold together with the documentation and the know-how, and it is frequently accompanied by exports of material goods.

7. This is connected with application of so-called restrictive trade practices, the discussion of which will be dealt with later in this article.
8. Compare: "Technical Know-How Export to Developing Countries," collective work, J. Nowicki, editor. PWE, Warsaw, 1976.
9. Compare: R. Vernon: "International Investment and International Trade in the Product Cycle," *QUARTERLY JOURNAL OF ECONOMICS*, May 1966.
10. At this point it should be stressed that this may (though it does not always have to) indicate a deterioration of the indicators or the rationality in the economic activities of the technical know-how importer.
11. Because we have adapted to the assumption of a relative deficit of investment instruments, a more frequent case will be a lowering of the investment level (thus economy of the capital) without a change in the degree of growth.
12. Various aspects of this phenomenon are discussed by D. Sokolow, in a paper, "Economic Opportunities," PWE, Warsaw, 1972.
13. The degree of overpricing is expressed in a percentage proportion of actual price paid by the buyer for the imported know-how as compared to the average price on the world market. On the subject of other details connected with this question see C. V. Vaitson, "Transfer of Resources and Preservation of Monopoly Rents," mimeograph presented to the Dubrovnik Conference of Harvard, DAS, 1970.
14. For more detail see, "Restrictive Business Practices," Trade and Development Board of the United Nations, TD/B/C.2/104, New York, 1971.
15. Calculations based on Central License Register, MIZIGM.

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CSO: 2600

TECHNICAL KNOW-HOW EXPORTS CONFERENCE HELD

Warsaw HANDEL ZAGRANICZNY in Polish No 2, 1980 p 37

[Editorial: "Export of Technical Know-How"]

[Text] Technical know-how, particularly in its "pure" form, and technical services are important but insufficiently exploited subjects of our exports. This general thought emerges from a conference organized by the Chief Technical Organization's (NOT) Committee for Export and Import Policy and by the Expertise and Organizational-Technical Progress Centers Group (ZORPOT) on the subject of developing exports of technical know-how. The conference took place in Warsaw on 21 January this year.

The importance of the problems that were the subject of the conference was underlined by the presence of a member of the Secretariat, the director of the Department of Light Industry, Trade, and Food, Central Committee PZPR, Z. Kurowski, and the chairman of the NOT, Minister A. Kopic. The discussion was based on papers presented by L. Lachowski, chairman of the NOT Committee for Import and Export Policy; R. Strzelecki, Undersecretary of State for Foreign Trade; and M. Kazimierzczak, Undersecretary of State for Education, Higher Schools, and Technology. It became apparent from the papers and from the discussion that our exports of technical know-how, while there has been a marked increase in recent years, are not at the level that could be attained with the existing potential of the scientific research base of science and industry, with the intellectual potential of Poland's scientists and technicians, and with their actual achievements. Thus, one can see a disparity between the potential (as well as our entire industry) and the value of the technical know-how transferred abroad on the one hand, and between that value and the extent of imported licenses and know-how (particularly during the last decade) on the other hand. The causes of this unsatisfactory state of affairs were sought primarily in economic and organizational shortcomings in the ties between foreign trade enterprises and units of the scientific-research base, in the design and technical industries, in the lack of a suitable trade-technical apparatus, in the lack of a legislative system, and in the lack of economic stimulants.

Of particular note in this situation are the initiatives of some associations of technicians, above all the SIMP (Association of Polish Mechanical Engineers and Technicians). With the assistance of ZORPOT, it is leading the way in exporting technical know-how while searching for effective organization and technical solutions. All indications are that there is a need for treating the existing potential as an important source for intensifying our exports. This is true as regards the export of highly processed products of our industry (which by their very nature contain a certain input of our technical know-how) and as regards the way the exports products are directed. The fact that this is a complicated matter, that it has many aspects not solely limited to organizational problems or economic mechanisms, was attested to by the course of the discussion during the conference.

The many-sided issue of exporting technical know-how causes the interest in a solution to go beyond the technical realm. It becomes an issue for the entire economy. Today, we are publishing two articles devoted to this subject. We will attempt to give this subject broader coverage in HANDEL ZAGRANICZNY during the current year.

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DEVELOPMENT OF LUBLIN COAL BASIN DESCRIBED

Warsaw ZYCIE GOSPODARCZE in Polish No 20 Jul 80 p 4

[Article by J.D.: "Lublin Coal Basin"]

[Text] The first press conference dealing with construction of mines and utilization of coal from the Lublin Coal Basin was held in Leczna, this area's future center. Minister of Mining Wlodzimierz Lejczak flew from Silesia to attend this first official meeting with journalists in the LZW [Lublin Coal Basin]. Before the questions, Vice-Minister Mieczyslaw Glanowski, the ministry's representative in charge of the Lublin project, presented introductory remarks. The statements made by Vice-Minister Glanowski require discussion at length, if only because it took more than 5 years (construction of the pilot-extraction mine in Bogdanka began in January 1975) to hold an official meeting between journalists and the managers who will be administering tens of billions of zlotys of public funds.

"Our coal requirements are steadily growing, while coal production in Silesia is becoming increasingly more difficult, and therefore," stated Vice-Minister Glanowski, "the decision was made at the highest level of government to build from the ground up a coal basin in Lublin Voivodship." The industrial development plan for this new coal basin was based on geological exploration activities to locate coal seams, conducted for years, as well as research studies. Coal seams in the southeastern part of Poland, called by geologists the Lublin Carboniferous Basin, cover an area of approximately 14,000 km² and are said to extend as far as the vicinity of Warsaw. The Lublin Coal Basin, where the coal deposits have been most thoroughly studied, is a region covering approximately 8,000 km², extending from the environs of Radzyn Podlaski on the northwest to the vicinity of Hrubieszow in the southeast. Hard coal reserves in this region, extending to a depth of 1,500 meters, are estimated at 74 billion tons. A "section" with an area of 1,000 km² was marked out within that region (where exploratory drilling is concentrated), which in turn has been divided into three coal regions:

a Northern Region, of 450 km², containing recoverable reserves of approximately 3.4 billion tons;

a Central Region, of 240 km², with recoverable reserves of approximately 2.6 billion tons;

a Southern Region, of 310 km², with recoverable reserves of approximately 2.8 billion tons.

That which has already been built, at a cost of 7.5 billion zlotys, in Bogdanka and Stefanow, is concentrated in the Central Coal Region, geologically the most thoroughly studied, which is to be the first to be mined.

Of importance in the Lublin Carboniferous from an economic standpoint is the so-called Westphalian Formation, also called the Lublin Formation. It is from 300 to 400 meters thick. Localized within this sequence in the Central Coal Region are 23 recoverable seams of hard coal ranging from 0.93 to 1.95 meters in thickness. Twenty of the 23 seams are well suited for mining. In order to reach this coal, it is necessary first of all to solve the problem of water mixed with sand which pours into a mine shaft. The water flow is enough to simply "erode out" the steel flange on the pipe connections in which a sleeve was placed.

There are three water-bearing complexes in the overlying rock and Carboniferous of the Central Region: the first, at a depth of less than 100 meters, makes it impossible to conduct mining operations without freezing the rock mass; the second, between 500 and 700 meters, is hallmarked by the fact that the water carries sand, or is so-called quicksand; the third water complex occurs below 700 meters and does not present a major threat to production operations.

No methane has been recorded down to a depth of 900 meters in quantities which could present a substantial technical problem. The low elasticity and strength of the rock suggest the conclusion that the rock mass will not crump. The results of tests on coal in seams exposed during sinking of mine shafts indicate a relatively high tendency toward spontaneous combustion. The coal has a calorific value ranging from 4,600 to 6,400 Kcal/kg, averages 1.2 percent sulfur content and 34 percent volatile matter. If commercial production operations confirm these figures, LZW will supply very good stoker coal.

According to a government decision, production of this coal in the Central Coal Region is to reach 24.6 million tons by 1995. This will involve construction of mines, rail lines, water intakes, mining machinery factories, power lines, heating mains, plus housing for 180,000 persons, for it is projected that construction of all this will require the employment ultimately of 43,000 workers at enterprises, plants and establishments of the Ministry of Mining (including approximately 30,000 mine workers), while an additional 40,000 workers should find employment in construction, transportation, administration, services, etc.

This is a thing of the relatively distant future, however. By the end of this year, a more tangible time frame, the following installations and jobs

are to be completed: approximately 800 meters of drifts, utilizing the three shafts which have already been sunk, as well as freezing of a fourth shaft, which has already reached a depth of close to 600 meters. As regards surface work, construction is to be completed on industrial and social facilities in the production region center, as well as completion of the first phase of a processing plant and placement in service for mining use of a rail line from the Polish State Railroads Janzcow Station. Additional construction to be completed includes 1,000 apartments, 280 cooperative units, 17 single-family dwellings, two worker dormitories accommodating 680 persons each, a mine worker mess hall serving 1,400 meals daily, as well as a boarding facility for the Basic Mining School in Piskie. The first coal from the pilot mine is scheduled to come to the surface in mid-1981. Miners figure mine startup from the moment the first coal is cut from the face. In connection with shaft sinking and running drifts, by the end of this year the pilot mine in Bogdanka should be producing 500-600 tons of coal per day. "Enough for the local guinea cooperatives," somebody joked.

The draft capital investment plan for 1981-1985 specifies "processing" approximately 35 billion zlotys, two thirds of that in construction work. These figures indicate that in comparison with the scale of work performed in 1976-1980, it is to be an enormous leap forward, in connection with which representatives of the Ministry of Mining are concerned that other ministries cooperating in development of the basin may not maintain this capital spending growth rate. Particular concern involves the Ministry of Construction and the Ministry of Transportation. In the five-year plan which we are entering the pilot mine should reach its ultimate production capacity, that is, 12,000 tons of coal per day, the K-2 mine should be producing its first coal, and construction of three additional mines should be at a more or less advanced stage. The entire requisite infrastructure should also be in place.

The Ministry of Mining established the "East" Mining Construction Combine, which already has a work force of several thousand persons and should continue to grow. As stated, however, that is not very much, and the Ministry of Mining is drawing attention to the fact that there is an urgent need to expand existing execution potential, especially the Ministries of Construction and Transportation, if coal production is to maintain schedule.

Following this detailed briefing, the journalists were permitted to ask any questions they might have, and they did have several. Minister Lejczak responded to the question of whether the coal beds had been fully surveyed with the explanation that it is not possible to determine size, quality and bedding conditions of coal deposits with 100 percent accuracy with the aid of exploratory boreholes. The geologists have accomplished everything they could, and only after coal cutting actually begins will it be possible to determine the degree to which projections correspond with actuality. At the present time, the minister stated, projections on coal quality and thickness of seams are proving out. Shaft sinking conditions are more difficult than had been expected, especially the first shaft, but the rate of construction of the pilot-production mine is still equal to or even

better than standard figures. Even in Silesia, where we possess almost full knowledge of the character of the overlying rock and coal seams, mine construction runs 10 years. In the LZW, if all goes well, the first mine will begin producing coal after 6 years of construction. "It is true," the minister acknowledged, "that we wanted to build the first mine in record time. Unfortunately difficulties proved to be greater than our ambitions. These are not, however, exceptional obstacles which are unknown in mining, and we shall overcome them. The Polish public," the minister continued, "is under the impression that the mineshafts which have been sunk are constantly being flooded with water. Water is a problem, especially if it must be raised from a depth of greater than 700 meters (the pumps installed in a shaft can raise water up to 120 meters. At that point it is necessary to pump it into a reservoir and from there raise it further — J.D.), but in an operating mine, where stationary pumps are working, several cubic meters of water does not constitute any threat. We have operating mines where water inflow is as much as 20 cubic meters per minute." Following this explanation one can merely express amazement over why there has been such meager information up to the present time on the nature of difficulties in sinking mineshafts in the LZW so that the public became convinced that something is going wrong with this project.

Development of agriculture is to perform an equal function with mining in development of this region, but concern has been aroused by the feeling that the "fill" system coal mining process stands in a certain contradiction to this principle. It has been explained that the fill system is employed only when coal is being mined under cities or towns. This is a necessary evil, for it delays production and increases costs. With a mine 1,000 meters deep collapse of mined-out spaces will cause the ground to sink only to a small degree. There are justified concerns, however, about lowering of the water level and in general about change in water relationships. But mining has appropriate services to handle these matters, as well as land reclamation experience to prevent such damage from occurring.

10/4

CSO: 2600

POLAND

BRIEFS

MARITIME FUEL ECONOMIZING MEASURES--Precise standards specifying the consumption of fuel for each ship have been applied. The directorate of the Polish Steamship Company in Szczecin, having perceived the fuel price trends prevailing on the world market, decided to apply, in the construction of new ships, the type of propulsion by which the ships would use the cheapest fuel. This pertains particularly to a series of ships which have a deadweight tonnage of 4,400 and were recently built in the British shipyards. Electric generators connected to the propeller shaft were used on these ships, whereby the use of separate generators burning very expensive fuel is not required even during maneuvering of the ship in the port area. The economizing measures of the Polish Steamship Company directors and personnel have already been very effective. In the second half of 1979, the ship crews saved 40,000 tons of fuel. The savings in 1980 should amount to approximately 70,000 tons. [Excerpt] [Warsaw TRYBUNA LUDU in Polish 6 Aug 80 p 3]

CNO: 2600

METHODS FOR INCREASING ECONOMIC EFFICIENCY EXAMINED

Bucharest ENA SOCIALISTA in Romanian No 12, 20 Jun 60 pp 1-3

[Unattributed article: "High Efficiency and Quality in Economic and Social Activity"]

[Text] Becoming a permanent practice in the past decade and a half--the most fertile stage in the country's history, inaugurated by the Ninth RCP Congress--the work conferences and meetings of the leadership of the party and its secretary general, Comrade Nicolae Ceausescu, with the working people in various sectors of activity and in all the counties mark, every time, major moments of great effervescence in the country's social and political life. This lively, systematic dialog, which occasions the analysis of the state of affairs, the drawing of conclusions and the establishment of measures for continually improving the work, expresses the profound democratization of our socialist order, the wide possibilities that it creates for the direct, active and responsible participation of all citizens of the homeland in managing affairs of local or national interest, in devising and implementing the domestic and foreign policy of the party and the state, a policy put wholly in the service of the Romanian people's aspirations of progress and well-being.

The work conference in the RCP Central Committee on 29-30 May and the expanded plenary session of the National Council of Working People on 13 June have a special importance for orienting the activity of the ministries, the centrals, the industrial units, all those who work in the sphere of material production. Organized on the initiative and under the guidance of Comrade Nicolae Ceausescu, these actions permitted--as was pointed out at the session of the Political Executive Committee of the Central Committee of the party--thorough, exacting, objective discussion of the activity performed in the economy, of the work of the party and state bodies, of the main phenomena that are now appearing in economic life, there being established tasks, orientations and measures of basic significance for successfully implementing the decisions of the 12th party congress.

The great achievements gained by our people in the first 4 years of the current five-year period in all fields of economic and social life are

well known. Positive results have also been registered in the 5 months that have passed in 1960. All the conditions exist for successfully concluding this economic year and, along with it, the whole five-year period, thus creating favorable premises for proceeding to the new stage of development of the country in 1961-1965.

The complete achievement of physical and net output in all industrial branches and enterprises represents a central objective in economic activity. It is known that, for many years, economic activity was measured by means of gross output, which permitted artificial fattening of the results without it being possible to know each staff's real contribution to the growth of national income, the material expenditures with which the respective output was obtained, and so on. The "gross output" indicator even became an obstacle to the proper performance of economic activity, since many enterprises and many ministries were interested in obtaining as high a value of gross output as possible with as high and costly material consumptions as possible, neglecting the physical output, the achievement of net output, of the newly created value, the only things that contribute to the growth of national income, of national wealth, and provide the resources needed for the further general development of our socialist society, as well as for the raising of the material and spiritual well-being of the people.

The complete fulfillment of the tasks concerning physical and net output in accordance with the plan and the achievement of the assortments and the quality of the products in accordance with the demands of the domestic and foreign market now constitute the major imperative in economic life. They are, of course, closely connected with the manner of organization of production and labor, with the creation of the conditions for growth in labor productivity.

In the current five-year period, positive results have been obtained in the growth of labor productivity, but they are still not situated at the level of the resources at our national economy's disposal, of the requirement of eliminating the gap in this field with regard to the achievements in other countries. Consequently, it is necessary to proceed to apply more steadily the measures for growth in labor productivity, to organize the production in each unit as rationally and scientifically as possible. As the secretary general of the party specified, it is necessary, at the same time, to eliminate the sometimes serious deficiencies which still appear in the organization of labor and which cause much time to be lost and materials and energy to be consumed uselessly.

The way in which people are allocated and used exercises a big influence on the level of social labor productivity. In this regard, it has been prescribed that the measures established with regard to decisively reducing the personnel who do not work directly in production, generically called auxiliary personnel, in which those who serve production are also included, be applied energetically. It is noted that the number of those personnel

is sometimes nearly equal to or just slightly less than that of those who work directly in production. However, it is abnormal for there to be a big number of people who prepare vouchers, who store and transport parts. Good organization of labor presupposes that all these activities, certainly necessary to the production process, will be achieved with as few a number of people as possible, improving the technological flows and expanding the mechanization and automation of the work. In the same context, it is necessary to reduce the number of office personnel, a fact becoming possible due to the introduction of modern machines, including computers. As is known, many computer centers have been built, the use of electronic technology has been expanded considerably, but instead of being decreased, an increase in technical, administrative, office and auxiliary personnel is found. However, the introduction of the computer, automation, the management of economic activity by electronic means must be reflected in a suitable reduction of the personnel who do not work directly in production.

Good use of the work force is indissolubly connected with efficient, rational organization of the shifts. The tendency to raise the shift coefficient at any price proves harmful from an economic viewpoint. At the expanded plenary session of the National Council of Working People, Comrade Nicolae Ceausescu pointed out: "If we do not have possibilities of working at full capacity on the third shift, it is better to give it up than to work at only 20 percent of the potential, since the fuel and the other expenses exceed what we achieve in production. Organization of the third shift is mandatory where we have continuous activity, as well as in other sectors where it is necessary, but there we must group the machines and equipment better in order to provide suitable supervision and technical assistance."

It is a proven fact that good organization of production and labor presupposes the complete providing of technical assistance, including quality control, at a suitable level on all shifts. In this regard, it is necessary to expand more the role of the foreman, who must be responsible for the achievement of production and for its quality, for order and discipline.

In the conclusions of the expanded plenum, the secretary general of the party asked the planning and manpower-allocation bodies to seriously analyze these problems. "Let us establish according to sectors, according to branches, the bare necessities of manpower beyond which it is not possible to go. Let us organize better the activity according to shifts, so as to ensure the as rational use as possible of what we have. Each economic and social unit must have its own plan for manpower in relation to production, to labor productivity--and maintain only the bare necessities of personnel." These words synthesize a veritable program of action for utilizing with higher efficiency the labor resources that our country has.

The achievement of physical and net output in the planned assortments and with the planned quality and the obtaining of high efficiency and

profitability in economic activity depend considerably on the reduction of production expenses in general and material expenditures in particular. The country's limited resources, the higher and higher prices and the difficulties in procuring raw materials and supplies on the foreign market, and the accentuation of the world energy crisis are causing the management and economization of material and energy resources in all ways to become a cardinal problem that conditions to the highest degree the progress of our national economy. This problem is, with good reason, always present in the attention of the party leadership and, consequently, it is stressed on all occasions in order for it to be clearly understood by everybody.

The reduction of material and energy consumptions implies the scientific setting of quotas for them, starting from the best results, the close watching of consumptions, the taking of steps to recover and recycle scrap and secondary resources, the promotion of modern technologies, the typification of products, and so on. In connection with this, the secretary general of the party stressed, once again, the great duties of the scientists. "I would like to draw attention especially to the intensification of the activity of scientific and technological research, which," Comrade Nicolae Ceausescu pointed out, "has a decisive role in achieving the transition to a new quality, in raising the qualitative and technical level of production, in reducing the material consumptions. We must concentrate our research forces on the main, important problems."

The fulfillment of the export obligations in the best way is a priority task and must stand in the center of the concerns. International exchanges and cooperation in production represent for our country a necessity for successfully attaining the economic objectives, and day by day they must stand in the center of the attention of all the state and party bodies, all the management councils, all the working people.

Strongly stressing the special significance of this sector, Comrade Nicolae Ceausescu stated: "Without a suitable foreign trade activity--considering that we import a large part of the raw materials and many supplies--we will not be able to provide for the normal performance of production, the development of the production forces, the general raising of the material and spiritual standard of living. Consequently, we must understand that the problems of production for exportation, of quality, of the providing of exportation with as good a rate of exchange as possible, with better utilization of raw materials, constitute one of the basic problems of economic activity, of the new economic mechanism."

In foreign trade activity, primary attention must be devoted to the equilibrium of the balances of trade and payments. Each enterprise, each central, each ministry that achieves imports and exports must provide equilibrium to the balance, both the balance of trade and, above all, the balance of payments. It must be understood clearly that the current situation of our foreign trade requires us to export more goods, of higher value, in order to provide for the payment of the installments falling due and for

the elimination of foreign debt, along with providing the means of payment for current imports. "I want to again point out to everybody that we will no longer allow any import of any kind for any reason without the necessary coverage of the payment for this import by sure exports," the secretary general of the party said.

Of course, limiting importation to the bare necessities, it is necessary to act to provide the maximum from domestic production, including by recovering and reusing raw materials, supplies and subassemblies, by carrying out the programs for assimilating and integrating the manufacture of new products. At the same time, the necessity of the better utilization of raw materials and supplies in exportation is appearing more and more. This presupposes that high-quality goods with a higher technical level, with as low a consumption of materials as possible, will be produced. In this way, it will be possible to also obtain prices in valuta in a suitable relationship to the quality of the products and comparable to those that are achieved on the world market.

The application of the sole rate of exchange in lei, beginning on 1 January 1981, instead of the rate of exchange in lei-valuta, is of special interest for the general improvement of foreign trade activity. The system practiced up to now created abnormal situations, such as the settlement of importation at 3 or 5 lei to the dollar, while exportation was still settled at 50 lei to the dollar. In accordance with the sole rate of exchange, both importation and exportation will be settled identically, which will be of a nature to bring more order to this field, to more strongly stimulate exportation and to reduce the tendencies to heedlessly import things that we can achieve in the country.

In close connection with this, positive results are also expected from the improvement in the system of remuneration for the work performed in foreign trade, from the basing of this activity in general on economic principles. The introduction of a quota--naturally, higher for exportation and lower for importation--in accordance with which those who work in this sector will be paid is planned. As the secretary general of the party pointed out, "With there being introduced payment in relation to the sale of the products achieved, no one must any longer either receive per diem or account for the way in which he has spent his money."

The raising of economic activity to the levels imposed by the progress of Romanian society, by the current scientific and technical revolution, is wholly possible by widely promoting the modern methods and forms of organization, of management and planning of economic life, the new economic and financial mechanism devised by our party at the plenum of the RCP Central Committee in March 1978. One primary finding is that this new mechanism is making its way with difficulty, is encountering resistance from outmoded practices, is still running into the tendency of some to work without accounting for the economic results obtained.

It is known that one of the basic principles of the new economic mechanism consists of obtaining maximum efficiency from any activity, of using with better results the part of national wealth entrusted for administration to each work staff. This principle is equally valid in practice in all fields of economic and social life. Consequently, each economic and social unit must organize its activity according to the principles of self-management, worker self-leadership, and self-administration, must have its own income and expense budget. Even the budgetary units must operate according to the principles of self-administration and self-leadership, must have their own income and expense budget. It is thus a question of the units not only in the sphere of material production but also in education, health, art, culture and so on. It is necessary everywhere to know exactly what expenditures are made and what incomes are obtained, in order to act perseveringly to decrease the former and increase the latter.

Good activity in any field also creates the material conditions for greater collective and individual incentives for the working people. "We must provide," Comrade Nicolae Ceausescu said, "for the strong growth of profits and for their distribution in conformity with the provisions of the law, including the achievement of the funds for profit-sharing in relation to the fulfillment of the plan for physical output, net output and profits, to the growth of economic profitability."

The principles of the new economic mechanism are opposed to the old views concerning the financing of unprofitable, inefficient activities from the budget. Consequently, it has been decided to no longer provide any kind of grant from the budget to the economic units, starting with next year. Those units that operate unprofitably will be shut down. In connection with this, in the resetting of prices--an action in the process of occurring--a better differentiation of the rate of profitability and the removal of all influences that distort reality from profit and prices are intended, so that no economic activity will be inefficient any longer. At the same time, it is planned that a smaller part for domestic production and a bigger part for stimulation of export production will be provided from profits.

Topical problems are posed in connection with the improvement of planning through the more sensible combining of unified management, on the basis of the sole national plan for economic and social development, with self-leadership and economic self-administration, there being created the possibility of affirmation of the capacity and initiative of the personnel in the economy, but there being adherence to the principles, the laws, the general plan for economic and social development. The secretary general of the party pointed out that by self-leadership and self-administration there must not be understood in any way the right of each to employ and expend financial resources, to initiate activities only as he sees fit.

Good management of activity implies the development of worker democracy, the full use of the legal and institutional framework for participation by

those who work in the making and implementation of the decisions, the elimination of formalism, bureaucratism and festiveness in organizing and holding the working people's general assemblies. They must discuss with greater responsibility both the plans and the budgets in all respects, pursuing the achievement of production in the best ways and with maximum efficiency. The working people are called upon to provide all the necessary measures and to act steadily as owners, producers and beneficiaries. Only in this capacity and by acting in this way can and must the working people's councils and general assemblies fulfill the important role that they have in the management of economic and social life.

We are close to the end of the first half of the last year of the 1976-1980 five-year period. The results up to now are positive and justify the conviction that the current five-year period will be concluded successfully. The guarantee of new and valuable achievements in the country's economic and social life consists of speedily eradicating the existing shortcomings and deficiencies, in widely and actively mobilizing all the human, material and financial resources that we possess in order to raise the work in all sectors to a new, qualitatively higher level, steadily applying the instructions and orientations of the party and its secretary general, Comrade Nicolae Ceausescu.

12105

CSO: 2700

REDUCTION OF INVESTMENT COSTS IN CONSTRUCTION PROJECTS

Bucharest ERA SOCIALISTA in Romanian No 12, 20 Jun 80 pp 8-10

[Article by Dr Alexandru Olteanu, director at the Investment Bank: "Realities and Exigencies in the Field of Investments"]

[Text] The remarkable progress in the field of investments, with extremely favorable effects in all sectors of activity, is incontestable. It is the result of the creative work of the designers, the researchers, the builders and the suppliers of construction equipment and materials, who devote their efforts to the achievement of durable facilities, with lower and lower expenditures of materials and labor. The efficiency of the investments thus reflects the growth of the collective experience in the activity of conception and execution of each investment, the improvement of the multilateral coordination of the energies for satisfying as fully as possible the requirements of society.

The main synthetic economic and financial indicators achieved in recent years in the national economy as a whole reflect graphically the positive effects of the investments carried out. So, for instance, the average annual rate of growth of over 10 percent in national income estimated for the 1976-1980 period exceeds that of 9.5 percent in national product. In the same period, industrial gross output is growing at an average annual rate of 11.3 percent and agricultural gross output at that of 5.7-6.5 percent. Labor productivity is registering significant growth. Calculated per worker in industry, it is increasing at an average annual rate of over 9 percent.

The actions taken on the instructions of the party leadership to improve the construction solutions, to reduce the dimensions of the halls and their heights, to eliminate the useless subdividing of buildings and undue finishing, to reduce the distances between machines and equipment, to replace scarce materials with light and cheap materials, and so on, have favorably influenced the efficiency of investments. These actions of national

proportions involved the forces of design and execution, there being demonstrated the great reserves existing for reducing the cost of investments, for increasing their efficiency.

The further economic and social development of Romania at the rates and in the proportions established by the 12th party congress and the raising of our people's standard of living are conditioned by the impeccable implementation of the investment program that we have proposed for ourselves.

It is a fact that the achievement of greater and greater volumes of investments from one year to another, which involve significant material, human and financial consumptions, and the ever growing complexity of the national economy imply greater concerns on all levels for substantially increasing the economic efficiency of each investment, great care and responsibility in the utilization of national wealth. Such concerns are especially acute since there still are a number of deficiencies in the rational utilization of investment funds with a great spirit of thrift.

On the occasion of the visit to the exhibition of new construction materials and construction solutions and to the work session in the RCP Central Committee on 25 April of this year, Comrade Nicolae Ceausescu offered justified criticism regarding the uneconomical expenditure of investment funds due to the achievement of overlarge constructions, of work of modernization and development that has nothing in common with the requirements of providing production equipment and installations, the construction of new production spaces under the conditions of not rationally utilizing the existing ones, the unjustified demolition of social and administrative buildings, the use of costly, inefficient construction solutions, big consumers of imported or energy-intensive materials, and so on.

Starting from the fact that in too many cases the cost of investments still remains high, especially for construction work, the leadership of the party and the state has indicated a body of measures that will permit the achievement of investments in a new, structurally improved view, so as to obtain high efficiency for the funds spent. As was indicated at the work conference in the RCP Central Committee on 29-30 May of this year and at the recent expanded plenum of the National Council of Working People, it is necessary to take steps and to act steadily to concentrate all the forces in the direction of achieving the facilities that have all the conditions for being put into operation this year or next year. It was also asked that the measures adopted with regard to reducing the investment facilities, especially the unproductive investments and the small investments, be complied with and that new work no longer be started until all the preparations needed for doing it in as short a time as possible are finished, in order to speed up the putting of the anticipated capacities into use.

There is no novelty in the statement that the reduction of the cost of investments provides for the achievement of cheaper fixed assets, which, in their turn, lead to the inclusion of lower amortization in the production

costs and, in consequence, higher profitability of production. In this way, with the same financial effort for development it is possible to achieve physically a bigger volume of fixed assets, especially productive ones, which will lead to a substantial increase in national income per unit of fixed assets. It is enough for us to state that a reduction of only 1 percent in the cost of the investments that we are carrying out this year represents approximately 25 billion lei, which is equivalent to the cost of about 315,000 apartments with 2 rooms. This is why it is necessary now, more than ever before, to immediately proceed to change the view in the design and execution of investments, both productive and sociocultural ones. This is not only necessary but also wholly possible, considering the extensive experience accumulated in the field of investments, in research on and design of them, in the use of modern technologies for construction and for production of construction materials.

These are only a few of the reasons that require steady actions for improving the design activity, the construction solutions and the construction materials that we use. We must also take into account the current development of science and technology, the situation of the resources of energy and raw materials that entail the immediate adoption of modern technical and construction solutions of high economic efficiency and with low material consumptions, especially of energy, in the design and achievement of investments.

We should not omit, either, the international framework in which Romania is carrying out the programs of economic and social development. It is a question of the intense economic, financial and energy crisis. Such negative processes that are occurring on a world level are also affecting to some extent the economy of our country, entering long ago and in growing proportions the circuit of international exchanges. However, Romania possesses all the factors that can lead to the counteracting of these influences to a great extent, the limitation of them to the minimum.

In this context go the new orientations provided by the party leadership, in the spirit of the decisions of the 12th congress, which reflect, again, the farsightedness in establishing the tactics for implementing the strategy for economic and social development of our country.

The concluding of the action of typification of constructions constitutes one of the main directions. In the field of industrial work there is posed the problem of typifying the halls and other constructions, according to industrial branches and sectors, there being established types of constructions with fixed dimensions (heights, widths and lengths), types of dormers and so on that would ensure the achievement of them in light structures and with a maximum saving of construction materials. It will also be necessary to typify all construction work with a technological character, such as foundations for equipment, technical basements, piles for supporting the halls, chimneys and so on, which are overlarge at present, adding very greatly to the cost of industrial investments. In this regard, for each

type of construction it is necessary to also establish the types of materials that can be used and the standard consumptions for each kind of material. Only in this way is it possible to rationally manage investment funds with maximum economic efficiency, only in this way is it possible to say a categoric "no" to the so-called "innovative" spirit concretized in the achievement of giant, overlarge industrial constructions, with a big consumption of materials, many of them energy-intensive.

The conceiving of types of modular halls will also simplify the unwieldy process of preparing the technical and economic documentation, with the duration of design being reduced substantially in favor of the time for materializing the investments and more rapidly putting them into the production circuit. And--why should we not say it?--there is also eliminated the tendency of designers to blow their own horn by designing and achieving showy works, big consumers of materials, which raise the cost of investments, make the constructions heavier and even endanger their very strength. There thus will also be eliminated those situations when each industrial investment was designed as a "unicum," with the payment for the design being done, consequently, under the conditions in which, in fact, parts of designs drawn up earlier were used.

It will be necessary to achieve similarly all the agroindustrial investments that, by their specific character and nature, require designs that recur and, consequently, by the way, were suited to typification a long time ago. However, in no few cases, one insistent concern of the designers was that of sophisticating the work of agrozootechnical construction, by providing all sorts of ventilation and air-conditioning plants, special insulation and so on, big consumers of energy, blithely abandoning the traditional construction materials and simple construction solutions, which would permit natural illumination and ventilation.

Responsible tasks also devolve upon the designers of roads and streets, considering that the means of transportation that we produce and will use will have greater capacities. In this field it is necessary to provide such a typification from a viewpoint of the construction system and the materials which can be used as to obtain roads which are resistant to high tonnages and which also involve low building and operating expenses.

Big possibilities of economization of investment funds reside in the revision of the typification of sociocultural constructions, both from the viewpoint of the dimensions and the types of materials used and from that of their specific consumptions. The types of social, administrative and laboratory constructions achieved in past years, which sometimes reached 10 stories and more, led to high investment costs, big consumptions of materials and the use of elevators and water-pumping installations, big consumers of energy, without the functionality corresponding to high operating expenses.

The revision of the conception in the field of the construction of housing is of special interest. The limitation of its height to the ground floor

plus three or four stories, with some exceptions in the big cities, and the typification of the construction materials and the consumption quotas will undoubtedly result in a substantial reduction of the cost per apartment.

The typification of the constructions in all fields of activity presupposes the use of materials corresponding to the construction solutions and technologies that will be established. Consequently, it is mandatory to also achieve a typification of the production of construction materials that would respond to the current requirements.

Of course, a reduction of the cost of construction entails in particular the elimination of materials that are big consumers of energy in the process of producing them and in execution and the replacement of them with cheap classic materials that are obtained from raw materials existing in the country. It is a question, for example, of abandoning the practice of using for insulation such materials as polystyrene, mineral wool, glass wool and other plastic materials for whose production a big amount of energy is consumed. Instead, clay and other rocks or secondary raw materials that are found in the country will have to be used for insulation, in natural form or with slight processing.

Special attention must be devoted to reducing the steel consumption in construction and the prototype dimensions used. This task is not new, but it must be performed with greater perseverance, since high, unjustified consumptions still exist. A brief comparison regarding the steel consumption in construction here and in France reveals significant reserves that we possess for reducing the cost of investments. Here, for instance, is what the steel consumption (in tons) per unit of investments was in the main branches of the economy in Romania in 1977 and in France in 1974.

	Tons per unit of investments	
	Romania	France
Total	0.436	0.417
Agriculture	0.122	0.037
Energy	0.118	0.047
Industry	0.212	0.139
Construction	0.046	0.037
Transportation	0.072	0.034

Sources: "Anuarul Statistic al RSSR, 1978" [The Statistical Yearbook of the Socialist Republic of Romania, 1978]; and "The Technical Office of Steel Utilization," Paris.

As follows from the above data, in the sectors that consume relatively much steel per unit of investments (agriculture, energy, industry, construction and transportation) there are big reserves for reducing this consumption.

One absolute necessity is that of typifying the construction materials according to geographical zones, depending on the local resources. In this regard, it will be necessary to prepare catalogs of materials, with the

consumption quotas corresponding to the types of constructions that are the basis for establishing the quotas of expenditures. Thus, better planning of the supply of materials, starting from concrete consumption quotas and not from "gross" indices, as has been done thus far, will also be provided. Finally, the consumption quotas will permit a better correlation of the need for materials with the capacities for producing them that we possess.

The accentuation of the process of typifying the constructions, regardless of purpose, and setting the quotas for the consumptions of materials will lead to a new upsurge in research in construction and the construction-material industry, the aim being to further improve the construction technologies and solutions and the types of cheap construction materials with low fuel consumption and to discover new local raw materials that can be used in construction. All these measures are meant to ensure that the new facilities that will be started in ensuing months are achieved in a new, structurally improved view that will lead to a substantial rise in the economic efficiency of investment funds.

The shortening of the durations of execution and the earlier obtaining of the economic effects expected from each investment represent requirements of permanent topicality.

It is known that the investment process causes, objectively, the temporary removal of financial resources for the construction of economic and socio-cultural facilities from the economic circuit. Any prolongation of the planned period for achieving an investment entails a tieup of the funds spent, with negative consequences for the economy. In too many cases, the delays in the execution of investment facilities did not cause--as was natural--a postponement of the start of new facilities, but, on the contrary, work, consisting even and only of preparing the land, was "attacked." Thus it is that sometimes the work front in investments is expanded in a completely unjustified way due to the parallel existence of a great number of facilities in execution, a matter that causes a dispersion of the material and human forces and capacities, an increase in the expenses on the sites, and the economy's being deprived of the results expected from the investment facilities. So, for example, at the end of last year, the Ministry of the Machine Building Industry had in simultaneous execution over 1,000 projects listed in the sole national plan, the Ministry of Transportation and Telecommunications had over 700, the Ministry of the Chemical Industry had 454, the Ministry of Mines, Petroleum and Geology had 424, and so on.

The reduction of the work front in construction and the speedy completion of the investments started, especially those that are in an advanced stage of execution, represent--as was stressed strongly at the recent work conference in the RCP Central Committee and at the expanded plenum of the National Council of Working People--decisive conditions for carrying out our investment programs in terms of high efficiency. It is necessary to make a selection of the priority facilities that are in execution and to concentrate the material and human forces for putting them into the economic and

social circuit as soon as possible. Of course, this concentration of forces presupposes that the new facilities that were to be started this year will be postponed, and some of those in execution, but which are in incipient stages, will be stopped for a period of time. The capacity of the local building-assembly organizations will have to be concentrated on housing construction, relieving them of the execution of other sociocultural facilities, which will be postponed, so that the housing-construction program is completely fulfilled.

The growth of the complexity in the field of investments, caused by the big volumes of investments, as well as by the high degree of technicality and by the rapid improvements that are being made in construction technologies, requires perfect organization of the process of achieving each project, starting with the phase of conception and ending with the making of the technological tests and the entry of the facilities into production. This presupposes that the start of the execution of a facility will be done in strict correlation with the providing of the technical and economic documentation, of the corresponding construction capacities and of the necessary construction equipment, machines and materials. Arguments are not needed in order to be convinced that good organization will eliminate a number of shortcomings which are still found on some sites and which disturb the investment process.

A special role in this direction goes to the planning bodies called upon to ensure that the introduction of new facilities into the plan is done only if the products have a sure commodity market and the production capacities have the technology approved, have the technical and economic documentation prepared and approved and have the suitable material base for achievement provided (technological equipment, machines and installations and construction materials). This entails a laborious activity prior to the start of the execution of the work.

First, it will be necessary for the manufacturing technologies, the problems connected with providing the technological equipment and installations that will be used by the new capacity, its type of production, and so on to be specified and clarified beforehand by the investment titulars. On the basis of these clarifications, the designers will be able to finalize the technical and economic documentation in a short period of time, in accordance with the model designs that will be approved, providing solid economic and technical substantiation for each particular investment.

Second, it is necessary for the investment titulars and recipients to act more steadily to place the orders at the right time with the suppliers of equipment and machinery and to establish delivery dates in strict correlation with the physical stages of execution of the construction work and of providing of the assembly fronts. It is necessary for the acceptance of the equipment and installations purchased to be done with extremely strict attention in order for there to exist right from the start--and not just after the beginning of the tests and the commissioning--the guarantee that

they have suitable quality and that the putting of them into operation will not be delayed due to a functional discordance with the provisions in the documentation.

Finally, the activity of the building-assembly organizations must be oriented toward increasing the degree of mechanization of the work, along with increasing the indices of utilization of the fleet of construction machinery on hand, through the rational, scientifically organized operation of it, through the earlier providing of spare parts and through the periodic, high-quality performance of the planned inspections and repairs.

The application of these principles and the satisfaction of these requirements will permit the steady achievement of the investment facilities in short periods of time and the avoidance of overlapping in execution and, the most important thing, will lead to better correlation of the possibilities of execution on the sites with the technical-material base, so as to ultimately obtain high efficiency for the investments.

The extensive experience gained in the field of investments in the years of socialist construction in our country and the technical and organizational capacity of the designers, the builders and the suppliers of construction equipment and materials, steadily engaged in implementing the vast investment program, give the assurance of fulfilling this program in terms of high quality and efficiency.

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CONSIDERATIONS OF EXPANSION OF TOURIST INDUSTRY

Bucharest REVISTA ECONOMICA in Romanian No 28, 11 Jul 80 pp 15-16

[Article by Costache Zmeu, deputy minister of tourism: "Greater Contribution of Tourism to Socioeconomic Development"]

[Text] The favorable economic conditions for tourism, the overall tourist potential that Romania has, and the important economic role that this activity can play as demonstrated by the experience of many countries including Romania are all alike reasons for special emphasis on tourism. In view of these considerations REVISTA ECONOMICA jointly with the Ministry of Tourism has organized an extensive discussion of the main aspects of tourist activity (systemic development of the tourist areas, improvement and diversification of tourist facilities and services, further expansion and improvement of the various forms of tourism, such as recreation and sports, spas and treatments, knowledge and documentation etc., according to the nature of the areas, more intensive use of the facilities, and greater economic effectiveness of tourism) with the participation of specialists and responsible personnel in the central and local organs and in research and practical activity.

We publish below a first article on these problems.

An Expanding Socioeconomic Activity

World trends as well as Romania's experience show that tourism is one of the most dynamic sectors of socioeconomic activity. Worldwide collections from tourism showed an average increase of 18 percent in the last 4 years with the exception of 1979, when they were up 15 percent over the previous year (in current prices). Of course the effect of the inflationary processes cannot be overlooked, but nevertheless this gain is more than 3 times greater than that of world trade, which was 5 percent and was subject to the same influences. According to the World Tourism Organization's figures, a record number of 775 million foreign tourists was logged last year, or a 4 percent increase over the preceding year, with collections amounting to \$75 billion.

Except for unforeseen events, it is certain enough that this trend will continue. And according to the estimates of the Italian authority on the subject,

the USSR, about 150 million tourists and collections of \$100 billion are expected this year. This veritable expansion of tourism seems to be stimulated at least by the following factors: the greater leisure time and increased incomes of some categories of the public, interest in visiting new places, which are becoming more readily accessible because of the increasingly convenient ways and means of transportation and communication, and people's natural desire to know as much as possible. And last but not least there are the increasingly rich and varied tourist attractions, which intensify interest in various tourist areas or countries, as well as the tourist propaganda intensified for the same purpose.

Under these circumstances Romania would have only to gain by increasing its efforts to promote tourism. We must also realize that competition is keen on the tourism market and that Romania began to exploit its tourist potential later than other countries we are competing with on this market. Therefore we must try to be competitive from now on and to play as large a part as possible in world tourism. In this competition we have an essential factor in our favor, namely our matchless tourist potential, even richer and more varied than that of countries with a tradition in this field and, especially, the friendly conditions created by our party's and state's policy of peace, detente and collaboration. Moreover the novelty of our offering is not to be interpreted as an initial disadvantage but as an original attraction that makes the outsiders true winners. I would say that this situation is similar to that of countries that are late to develop an industry, which is a disadvantage in itself but thereby has the advantage of creating a modern and competitive material base from the very beginning.

The height of interest in tourism, on the part of both the suppliers of tourist services and the beneficiaries, is based on the twofold function of tourism, the economic and the social, which are absolutely inseparable. Of course one or the other may predominate depending on the standpoint from which tourist activity is viewed. The economic aspect naturally prevails in the eyes of the investor, or the supplier of tourist services, because he is interested in making the most of his investments. As Nicolae Ceausescu pointed out, "We have invested heavily in tourism and we also have a great construction program, and therefore we must make every effort to make effective use of the resources we have created." From this viewpoint I think the investments in tourism should be treated, from the standpoint of the system that is applied to them, as economic investments and not as social-cultural ones, especially since tourist activity always brings profits and is never subsidized. It is no accident that very countries with a tradition for tourism regard it as a true industry with an actual stimulating effect upon other sectors of the services field as well and even of material production.

Steady Development of the Material Base

As I said, Romania has very interesting tourist attractions and important geography, historical, archaeological, traditional, artistic and even culinary treasury, but they have been too little exploited in the past. In view of such favorable objective conditions, the steady rise of the public's living

¹Nicolae Ceausescu, "Romania on the Path of Constructing the Fully Developed Socialist Society," Vol. 5, Political Publishing House, 1971, p. 307.

standards and the accompanying increase in the domestic demand for tourism, and the need of socialist Romania's more active participation in the international tourist trade as a means of improving its balances of trade and payments, special efforts have been made since 1965 to develop, and practically to create, the material base essential to tourist activity. Since the beginning of the formation of the material base tourism has benefited by a total volume of investments of 11 billion lei for this purpose in the course of three five-year plans, from 1966 to 1980.

In the last 15 years efforts have been made to fully exploit Romania's tourist attractions in four main areas, namely the seacoast, spas and health resorts, mountain resorts, and tourist cities and routes. The current five-year plan has emphasized the spas and mountain resorts, and the same emphasis will predominate in the next five-year plan, when the number of housing accommodations in the mountain resorts and spas will be increased by nearly 12,000 and those on the seacoast by about 4,900. In keeping with the evolution of the tourist demand from a sedentary tourism to a tourism characterized by documentation and information and with a rich cultural-scientific content, further emphasis will be placed on development of the material base in cities and on tourist routes, for which purpose about 2,000 reception points will be built.

General Criteria for Decisions to Invest

In general a number of main criteria are considered in making investment choices, such as concentration of the material, financial and manpower outlays on a limited number of capacities to expedite their construction, exploitation of new tourist areas and routes, exploitation of Romania's geothermal potential, choice of the most interesting locations and wise and harmonious distribution of tourist facilities throughout Romania, and proper proportioning of investments for maximum social and economic effectiveness.

A systemic, overall view is absolutely necessary to the design of a new tourist resort or the development and modernization of the existing ones. This entails analysis of three series of factors that guide us in designing the appropriate models, namely the program-model, the functional model and the spatial model. In the case of the first model the natural conditions are considered (settlement, population etc.), the preexisting facilities, and the nature of the tourist demand to be met. The functional model concerns determination of the main tourist functions of the resort: housing, services, recreation, sports, treatments, transportation and traffic etc. The spatial model is for adjustment of the size and architecture of the constructions to the nature of the region, the least possible interference with the basic elements of the relief, and keeping the other characteristics of the environment unchanged.

For the time being more rapid improvement of the conveniences and supplementary tourist facilities in all tourist units is a priority problem because the tourist tourists are becoming more and more exacting and the attractions remain competitive only if they meet the most diverse requirements of the customers.

Even in the mountain resorts multiplication and diversification of the possibilities for recreation, sports and cable transportation have been emphasized,

along with construction of new capacities and improvement of the conveniences in the existing ones. At Poiana Brasov the ratio between the receiving capacity of the ski tracks and the possibilities of cable transportation, compared with the housing capacity, was changed from 0.65 in 1976 to 1.24 at present, while a coefficient of 1.3-1.6 cable transport seats per one housing accommodation is considered optimal. But it should be pointed out that while cable transportation has been the bottleneck so far, in the more or less near future as the housing and transport capacities continue to increase, the bottleneck will shift to the ski track capacity, which tends to lag behind. The situation becomes more acute in the rush periods especially, during the pupils' and students' winter vacations.

It may be said that these considerations have been and are applicable to the spas and health resorts, where efforts have been made to modernize and correlate the capacity of the treatment centers with the housing capacities, with accelerated increase of the latter. The treatment centers now have modern equipment and can give many complex treatments, and the new housing capacities have been connected with these centers by enclosed spaces. Since 1976 such treatment centers with a capacity of more than 65,000 major processes a day have been built in six resorts of outstanding therapeutic value. Moreover it is intended to create sport and recreation areas in the spas and health resorts too in order to enhance their functions. For the same purpose, perhaps in the future we should also consider the suitability of mixed functions for some points, as treatment resorts and as winter-sport resorts, especially because many of them are in mountain areas and offer very good conditions for this.

In view of the goals set by the 12th Party Congress as well as the provisions of the Directive-Program for Improving the Living Standard in 1981-1985 and the Quality of Life, calling for general reduction of the work week, a number of measures will have to be taken to improve the material base of tourism to meet the increased demand that will occur, especially by creating small tourist areas with possibilities of housing and recreation near the large urban centers. To this end greater emphasis will be placed upon use of both natural and reservoir lakes as well as watercourses for tourist purposes.

Growing Economic Effectiveness

While the total number of tourists in the two categories of domestic and international practically doubled between 1970 and 1979, indicating the expansion this activity is undergoing, in the same period the number of personnel employed in this activity increased by less than 55 percent, along with the qualitative growth of the services. Occupancy of housing accommodations increased from 67.1 percent in 1970 to 76.9 percent in 1979 [sic] and will reach 83.1 percent in 1985. Of course this indicator will tend toward the maximum possible limit once the tourist equipment of the resorts or the sport and recreational facilities are diversified.

But the growing effectiveness of tourist activities is also clear from other indications. We find it encouraging that in 1979 compared with 1970, thanks

to diversification and improvement of tourist services, collections in lei of foreign exchange per tourist day increased by more than 2.5 times and the volume of profits per housing accommodation increased by about 4.5 times. The fact is also significant that the total volume of profits is up about 55 percent in the current five-year plan. All this is indicative of the growing volume of Romanian tourism on the international market and is also another reason for further emphasizing tourism as a sector producing national income. At the same time it shows that there are still many reserves for enhancing the economic effectiveness of this activity and increasing its foreign exchange contribution, and that persevering efforts must be made henceforth to exploit them. But this is such an important problem that it merits separate treatment.

Of course there are also many other urgent problems that also directly or indirectly affect the effectiveness of tourism. In the first place the energy crisis and the constant rise of prices for energy and petroleum especially will certainly have long-range consequences for tourism too. Like all other economic sectors, tourism will also have to adjust to a period wherein energy will be expensive. In this situation it becomes absolutely necessary to study and find new means of transportation and methods for new constructions that will conserve energy as far as possible. We think one solution would be to go back to rail transportation, perhaps with cars specially designed for tourist use, with a panoramic view, services paid for or included in the price of the ticket, etc.

As regards the new tourist constructions, the most efficient methods of thermal insulation will have to be found and use of traditional local materials for the purpose seems to be one of them. And the first results obtained on the seacoast in use of solar energy are promising, and we shall take steps to expand this use.

And finally I think that for a more rapid increase of Romania's tourist potentials, for which the housing capacity is essential, we shall have to use the experience acquired by the vacation villages, especially in the picturesque areas and on the main tourist routes. Expansion of this kind of accommodation could be accomplished with very limited investments but it would require an organizational effort, and it would also meet the particular requirement of a certain segment of the tourist market. Moreover it would conform to the policy established by the 12th Party Congress of developing small and artisan industry in order to exploit local resources of manpower and materials. Tourism, itself a factor for growth by virtue of its economic results, also entails the development of other activities such as various kinds of services, handicrafts etc. And the possibility might also be considered that some uniform agricultural councils, either by themselves or in collaboration with the county offices of tourism or the consumer cooperatives, might organize tourist inns or stations that they would supply with products from their own output. But once this subject is opened, the range of possible measures is clearly very broad.

It is to be expected that the discussion organized by REVISTA ECONOMICA will provide just such alternative methods for the best possible exploitation of

the tourist potential according to the particular local conditions, and for the further growth of this activity's contribution to the creation of the resources essential to the development and enhancement of the entire Romanian people's quality of life.

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